1992

The Philippine Marine Environment Protection Association (PHILMEPA) : a government and private sector partnership towards a marine environment protection strategy

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THE PHILIPPINE MARINE ENVIRONMENT PROTECTION ASSOCIATION (PHILMEPA): A GOVERNMENT AND PRIVATE SECTOR PARTNERSHIP TOWARDS A MARINE ENVIRONMENT PROTECTION STRATEGY

by

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A dissertation submitted to the World Maritime University in partial fulfillment of the requirements for the award of the degree of:

Master of Science in

General Maritime Administration.

Year of Graduation
1992

I certify that all material in this dissertation which is not my own work has been identified and that no material is included for which a degree has been previously conferred upon me.

The contents of this dissertation reflect my personal views and are not necessarily endorsed by the University.

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This project is dedicated to

ERICO

He was so young, yet he was able
to touch the lives of so many.

ACKNOWLEDGEMENTS

All of the material discussed in this project derives from the totality of activities prescribed by the World Maritime University over the last two years. I am indebted to the Sasakawa Foundation of Japan for sponsoring my scholarship at WMU. For the nomination to the University and their confidence I am very thanful to Messrs. Philip S. Tuason and H. R. Vitasa, Administrator and Deputy Administrator for Planning, respectively, of the Maritime Industry Authority (MARINA).

The guidance and advice of Prof. Ted J. Sampson proved priceless in the writing of this project. Mr. Dimitris Mitsatsos, Director General of HELMEPA in Greece provided unselfish information and direction relative to the project. LCDR Harry Schultz of the US Coast Guard in Wash., DC tirelessly expounded the intricacies of the well planned and co-ordinated US Response System. He was ably complemented by Ms. Jean Snider and Mr. Tony Jover of the National Oceanic and Atmospheric Administration (NOAA). I did not regret meeting Mr. Edwin Johnson of the US Environmental Protection Agency (EPA) for the insight he provided on the organizational structure of the Agency.

This project would not also have been possible without the assistance of friends who were only too willing to put their talent, expertise and valuable time at my disposal. I wish to thank them warmly for their co-operation - Christiana Prekeze, Elina Giannopoulou, Kathy Antipa, Allen Thurning, Tang Guo Mei, Ate Presing, Delfin Cruz, Lissa Librodo, Arnie Santiago, Perla Manguerra, Capt. Rollie Garcia, Lito Haboc.

Various other names and faces appear before me, but I am presently contending with the limitations of time and space. Let it be said that I owe them a debt of gratitude.

I am deeply grateful to the Filipino community in Malmo who made my stay more pleasurable; to Baby and Cesar Castillo with whom I have shared many elating moments; and most specially, to Peter and Angie Dime for simply being there when I needed them most.

Finally, and most importantly, my love goes to my wife, Iya. Never for a moment did I doubt that she would manage matters perfectly at home, thus enabling me to pursue my studies with more tenacity and perseverance.

Romy
10-10-92

TABLE OF CONTENTS

INTRODUCTION

A. The Growing World-Wide Concern For The Environment.

Even at the time of the writing of this paper, the United Nations general Assembly in its Resolution No. 44/228, Sec. I has convened the United Nations Conference on Environment and Development at Rio de Janeiro, Brazil from 03 -15 June 1992. This conference, aptly named Earth Summit '92, marks the twentieth anniversary of the United Nations Conference on Human Environment held at Stockholm, Sweden in June 1972. The Earth Summit aims to offer Governments the opportunity to seek consensus on measures relating to global, regional and national, environmental and developmental issues.

Some preparations for the summit started in Copenhagen, Denmark through the Conference on Ecologically Sustainable Industrial Development (ESID) last October 1991 which this writer has had the opportunity to witness. This latter conference provided assistance to Governments in understanding the ESID-related requirements with a view to the formulation of appropriate policies, strategies, recommendations and conclusions to the Earth Summit '92 in Brazil.

Altogether, these two conferences have placed environmental protection within the perspective of all human industrial activity. Nations are given the opportunity to establish future guidelines and parameters

as to the direction in which their respective popular and industrial activity shall proceed. Never before has the fate of the planet and its environment figured so prominently in inter-governmental and collective awareness. Here we see Governments and development agencies in every corner of the world realizing that their respective strategies for economic development must be integrated with environmental considerations.[1] It is now acknowledged that development and the environment form part of an inseparable whole. The environmental dimension of industrialization has been recognized both by developed and developing countries. More and more there is a consensus for pronounced public policy involvement which is essential to the identification and introduction of longer-term solutions to environmental problems. For a long long time, industrial activity has ignored the responsibility for meeting environmental objectives. In the frantic processes of resource exploitation, industry has forgotten to seek out ways to transform and apply technology in ways that diminish environmental deterioration.

But where did this all start?

A.1. The Early Signs of Environmentalism (The 1800s).

The increased level of environmental awareness we feel around us had no clear beginning. No movement and no country can even claim to have initiated this. It can be safely said that the earliest environmental issues were local issues. This new awareness started with the

appreciation of losses caused by hunting, loss of forests, birds and other living species. Like-minded individuals who appreciated such losses formed groups or coalitions mostly based on the commonality of aesthetic perceptions. The earliest protectionist groups started in Britain in the early 1800s.

As naturalists learned more about nature, so they recognized its value and the scale of the threats posed by human activity. The growing popularity of field sports took its toll on wildlife. Hunting itself did not cause concern but wanton slaughter and cruelty did. Although the Society for the Protection of (later Prevention of Cruelty to) Animals (SPCA) was founded in 1824 and given a Royal Charter in 1840, it was only in the 1870s that it started its investigations and subsequent action on the perpetrators. The East Riding Association for the Protection of Sea Birds was founded in 1867 to campaign against annual shoots off Flamborough Head.

In 1862, soap, glass and textile manufacturers were producing damaging emissions of hydrochloric acid which affected the fertility of the fields of Devonshire. No complaint was given legal attention until the effects threatened the estate of Lord Derby near St. Helens in Lancashire. Once taken up in the House of Lords, the Alkali Act of 1863 was passed which laid down controls of emissions of noxious/toxic industrial wastes.[2] Public demonstrations campaigned for the preservation of specific tracts of land for amenity particularly of urban commons for their recreation and sanctuary characteristics. In response, the British Government created the National Trust

in 1893, a body to acquire and hold land and property for the nation which were known for their historic and cultural interest. The experiences of government in the homeland were also spread into the colonies. In 1866 and 1879, the Jenolan Caves in New South Wales and the Royal Park south of Sydney, Australia were declared areas of public recreation and wilderness preservation. The Scenery Preservation Act was passed in Tasmania. A forest commission was set up in Cape Town, South Africa in 1854.

There are parallels between the growth of interest in the natural environment in Western Europe and North America. The obvious difference however was that Europe had been long settled and exploited whereas vast areas of North America were still being opened to settlement alongside Australia and South Africa. The first act regarding land management in America was the 1864 Act of Congress transferring the Yosemite Valley and the Mariposa Grove of Big Trees to the State of California with the admonition that "the premises shall be held for public use, resort and recreation and shall be held inalienable at all times".[3] A legislation signed in 1872 designated an area of 2 million acres in Wyoming as Yellowstone National Park, the world's first national park.

If forestry was one inspiration of American conservation efforts, water was another. In March 1907, President Roosevelt created the Inland Waterways Commission (IWC) to prepare a comprehensive plan for the utilization and improvement of inland waterways as well as the consideration of flood control, prevention of erosion and siltation and the construction of dams. Roosevelt was so

sympathetic to conservation that on 18 February 1909 he called into Washington, D.C. the first North American Conservation Congress. The congress was still in session when he again issued invitations to 58 countries to attend a World Conservation Congress in the Hague. Half of the countries had already accepted when he left office in March. The conference was subsequently called off by his successor, President Taft. The North American Congress and the planned international conservation conference were the first attempts to discuss the conservation and protection of nature at an inter-governmental level.

A.2. The Post World War II Era.

The post World War II era transformed values and attitudes towards internationalism which radically altered the agenda of environmentalism. There was now a pre-occupation towards the promotion of reconstruction and economic assistance particularly through the new United Nations and its specialized agencies. The new UN Economic and Social Council (ECOSOC) and the planned Food and Agriculture Organization (FAO) intended to make conservation part of post-war economic policy planning. There was skepticism however, if this thrust would work. There was doubt whether significant international agreement could be reached on conservation without considering the orderly development and marketing of natural resources. The United Nation's immediate priorities were the provision of food and the elimination of starvation, i.e., social and economic rehabilitation.

In October 1945, the FAO was founded in Quebec "out of the idea of freedom from want".[4] FAO emphasized the development and exploitation of natural resources in support of short and long term aims of tackling world nutrition problems by the improvement of efficiency in the production and distribution of food and agricultural products. Conservation was also part of its agenda. Side by side with the food problem, the restoration of the timber industry, the extension of forest cover to check soil erosion, protection of watersheds, shelter for wildlife, etc., were tackled. In Europe, Latin America, Asia and the Pacific and the Near East, FAO campaigned for forest rehabilitation and the wise use of forest products.

Inter-governmental organizations however did not have a monopoly of inputs into nature conservation. In fact the sixties proved to be the years of public causes and movements. In 1962, Rachel Carson published the book Silent Spring which subsequently prompted the creation of a presidential advisory panel on pesticides. The book detailed the adverse effects of synthetic chemical pesticides and insecticides. It generated much controversy and heightened public awareness of the implications of human activity on the environment and of the cost in turn to human society. The use of chemicals to control insect pests was interfering with the natural defences of the environment itself:

> "... the central problem of our age has become the contamination of man's total environment with substances of incredible potential for harm".[5]

In spite of her detractors from the US Department of Agriculture and several chemical companies, President Kennedy in 1962 requested his scientific adviser to look into the pesticide issue. A special panel of the President's Scientific Advisory Committee (PSAC) was set up and released a report in May 1963 that was critical of the pesticide industry and the Federal Government. Aerial spraying of DDT was banned in many states and several countries. All of the 12 most toxic substances listed in Silent Spring were ultimately banned or restricted.[6]

In April 1970, more than 300,000 Americans took part in Earth Day, the largest environmental demonstration in history. News coverages portrayed the demonstration as the arrival of the environment as a primary public issue.

The race in the development of the hydrogen bomb started with the first test of the atom bomb by the Soviet Union in 1949. The USA followed suit in 1951. Similar tests followed. Britain and the USSR in 1953, and France in 1960. Between 1945 and 1962, a total of 423 nuclear detonations were announced - 271 by the USA, 124 by the USSR, 23 by Britain and 5 by France.[7] The early impacts of nuclear testing were felt in October 1952 when abnormally radioactive hailstones rained over a 2800 Km. area off Australia. Radioactive rain also fell in New York state in April 1953. When an American hydrogen bomb test, code-named BRAVO was held at the Bikini Atoll in the Western Pacific, the explosive yield was twice that which was expected and due to an unexpected shift in wind current, radioactive ash, instead of falling into the ocean drifted over the inhabited Marshall Islands. Radioactive

cloud also contaminated some 18,130 sq. kms. of ocean. Two weeks after the test, the Japanese trawler Fukuryu Maru No. 5 (Lucky Dragon) returned to port in Japan with all its crew suffering from radiation sickness. The fish caught was also found to be contaminated. The death of one of the crew six months later touched off a wave of anti-americanism in Japan which strained the US-Japan relationship.[8]

Between 1961 and 1963, radioactive fallout became a major consideration of the public and the press. There was also a growing international opposition to the atmospheric tests motivated partly by the significant increases in fallout levels following the 1962 test series. In August 1962, the Partial Test Ban Treaty was signed in Moscow by the USA, the Soviet Union and Britain banning tests in the air, above the atmosphere or at sea (but not underground). The treaty was thus the first global environment agreement in the nuclear sphere. This treaty, through the fallout issue, alerted many people to the idea that technology could cause unlimited environmental contamination and that everyone could be affected. Here we see the very first seeds of a global environment and of closely related universal environmental problems.

A.3. Inter-Governmental Action on Maritime Safety and Marine Pollution.

The early sixties and going into the seventies began a series of environmental disasters which had the effect of catalyzing environmental fears. One of the first in the new

round of disasters concerned the collapse in October 1966 of a pit heap above the village of Alberfan in South Wales resulting in the death of 144 people, 116 of them children who were trapped in the local school.[9] This experience heightened concern on the problem of soil erosion.

The catastrophic effects of oil pollution were heightened in March 1967 when the tanker Torrey Canyon struck a reef off the southwest tip of England, between Land's End and the Isles of Scilly. This proved to be a national event of international dimensions as 117,000 tonnes of crude oil was spilled. The incident dramatically illustrated the threat poised to marine ecosystems by tanker traffic through coastal waters. It also impressed upon the British taxpayers the financial costs of pollution. Six million Pounds was spent for the cleaning up of the coastline.

The disaster revealed a lack of preparedness for such eventualities. It also publicized the inadequacy of scientific research and technical advice to the British Government. The government response led ultimately to the creation of the Royal Commission on Environmental Pollution in 1969. The incident was also foremost in the minds of the signatories to the International Convention Relating to International Intervention on the High Seas in Cases of Oil Pollution Casualties (Intervention, 1969) and the International Convention on Civil Liability for Oil Pollution Damage (CLC, 1969).

Two years after the Torrey Canyon, on 28 January 1969, a blowout at a Union Oil Company drilling platform off the

coast of Santa Barbara, California, brought serious pollution to much of the California coastline. It took two days to bring the blowout under control but a second eruption occurred on 12 February and seepage continued on for weeks up to July.[10]

Although there have been since further disasters (e.g., 2 million barrels of oil were spilled after a 1978 tanker collision in the Caribbean and 3.1 million barrels in the 1979 - 1980 blowout of the Mexican Ixtoc I well in the Gulf of Mexico), the Torrey Canyon and the Santa Barbara spills were the first such incidents and therefore had far greater public impact. The Santa Barbara event yielded no casualties nor permanent health damage yet it dramatized what people saw as the inability of the government and the business sector to put together the resources needed to stem such a casualty at its earliest but most critical stages. it also brought home to a great many Americans that the preservation of the environment does not simply happen but rather requires their involvement and support.

The human costs of environmental pollution were graphically illustrated in the late 1960s and the 1970s by the events at Minamata in Japan. The Minamata Company opposite Nagasaki started chemical production in 1939 and discharged spent catalysts containing mercury at Minamata Bay. Between 1953 and 1969, neurological disorders were observed in cats, birds and fishes in the area. Concentrations of mercury were found in fish and from people who died in what became known as Minamata disease. The chemical company denied any relationship between

mercury and the disease but between 1961 and 1964 paid out small compensation to disease victims. In 1973 the Minamata factory was found culpable and ordered to pay reasonable compensation. Another company, the Mitsui Mining and Smelting Company was ordered to pay compensation to victims of the itai-itai disease which afflicted people drinking from the Jinzu River on the north coast of central Japan. Over several decades the company had discharged into the river untreated cadmium, zinc and lead wastes which when ingested over time (through the drinking water) attacked the nervous system which resulted in agonizing death. Itai-itai is the Japanese exclamation of pain.

The effect of these and other environmental disasters was to draw wider public attention to the threats facing the environment. People were sensitized to the potential costs of careless industrial operations and now lent growing support to a series of local and international environmental campaigns which were often given wide media attention.

In 1897, Dr. Rudolph Diesel invented in Germany a new engine that used oil as a fuel. By 1911, the first diesel-powered ship crossed the Atlantic. Oil was clearly the more efficient fuel and by 1927, 28% of the world fleet was fuelled by oil. However there problems attached to this switch to oil fuels. Engine rooms produce oil wastes which had to be discharged overboard. Tankers produced wastes associated with their cargo. Sediments clinging to walls and tank bottoms had to be cleaned prior to reception of new cargo and again the oil/water mixture was discharged overboard. Empty cargo tanks were filled with water for

ballast purposes. Again this mixture was discharged to accommodate new loads.[11]

By 1918, the seas began to show the effects of contamination. In this period, the British Government prohibited the discharge of cleaning or ballast water within 3 miles of the British coast and underlined instructions and precautions to be taken when refueling, loading or unloading cargo. In 1921, the city of New York designated a 25-mile zone where these discharges were prohibited. But these laws proved ineffectual as pollution continued to cause public alarm and concern. It was recognized at the time that oil pollution was an international problem and could only be tackled effectively if shipping nations and those countries involved in the sale, purchase and the transport of oil agreed on joint measures. Pre-war international conferences were convened by the United Kingdom for the purpose of designating zones where oil discharges were banned and suggesting compulsory reception facilities but the approach of the war in Europe overwhelmed the effort.

While resistance existed to the formation of the Inter-Governmental Maritime Consultative Organization (IMCO, later renamed International Maritime Organization - IMO) as an inter-governmental body regulating world-wide shipping, the United kingdom took the initiative in 1954 and convened the Conference on Oil Pollution. Pressed by mounting complaints on the pollution of the seas, the delegates agreed on the text of the International Convention for the Prevention of Pollution of the Seas by Oil which dealt only with pollution from operational

sources. No attempts were made to introduce measures concerning accidental pollution nor with pollution by other substances. This was the first international convention dealing with pollution from ships. Zones were identified within which oil discharges were prohibited. Reception facilities for oil wastes were prescribed but only to cover those wastes generated by non-tankers. The irony is that tankers are most liable to pollute the waters during loading/offloading of cargo and other operational activities but no such requirements were passed for tankers.

Article 21 of the 1954 OILPOL Convention provided for the takeover of IMO of the responsibility for the Convention as soon as the organization of IMO went into effect. IMO met for the first time in 1959 but its first pre-occupation was with the adoption of a new International Convention for the Safety of Life at Sea to replace the old Convention.

There was much dissatisfaction over the 1954 OILPOL as regards the rigid requirements on reception facilities and the difficulty of policing the seas for illegal discharges. So, in 1962 IMO called a conference to consider amendments to the Convention. areas where discharges were prohibited were widened and new tankers 20,000 DWT and over were now included in the regulations.

The amendments however never created the expected impact because the load-on-top (LOT), the new method of handling oil cargo and tank cleaning was introduced by the major oil companies. The system drastically reduced the oil

waste discharges from routine operations. By the end of the 1960s it was claimed that some 1.6 million tons of waste oil that would have been discharged into the sea each year was being saved by the LOT system.

The grounding of the Torrey Canyon, the extent of the damage and the tremendous publicity that accompanied it necessitated the rethinking of oil pollution regulations. Governments which were previously concerned with discharges from operational causes wondered what would happen when ships bigger than the Torrey Canyon spilled oil from accidental causes like collisions and groundings. This issue of accidental pollution which was brought up by Torrey Canyon, however did not get the appropriate action from governments in terms of renewed pollution prevention regulations. Rather, efforts were expended towards the post-accident issues. Hence, in 1969, the IMO Legal Committee came up with two new conventions, the International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties (CLC, 1969) and the International Convention on Civil Liability for Oil Pollution Damage (CLC, 1969) which provides for compensation to victims of oil pollution paid for by the owner of the vessel. The liability limits of CLC, 1969 however was not considered sufficient but increasing the liability of shipowners was expected to meet resistance from the governments. Therefore, in 1971, the International Convention for the Establishment of an International Fund for Compensation for Oil Pollution Damage was created which provided additional funds once the limits of the CLC, 1969 was reached. Contributions are paid into the fund by oil importers.

In 1972 the United Kingdom called a conference which adopted the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (The London Dumping Convention). As with the 1954 OILPOL Convention, the IMO took responsibility over the LDC as soon as it entered into force in 1975. The LDC tackled the problems regarding pollution of the seas from land-generated wastes-dredged materials, industrial wastes and sewage sludge. Such materials present potentially damaging influences on fishing, recreation and other uses of the seas through the effects of pathogens on human health, eutrophication from nutrients contained in solid wastes and the toxic character of chemicals from industrial activity.

In 1973, IMO convened another conference to consider the proposed International Convention for the Prevention of Pollution from Ships (1973 MARPOL). It sought to eliminate operational pollution as well as further limit the possibility of accidental pollution and this time, not only oil but also chemicals, noxious substances and sewage became part of the regulations. Ratification however was slow because of the reluctance of countries to bind themselves and their national fleets to the new rulings on vessel construction, equipments, tank arrangements and the responsibilities posed by the Convention regarding enforcement. A series of tanker accidents in 1976 and 1977 off the coast of USA led to renewed public concern and in February 1977 another conference was called by IMO to consider new measures for tanker safety and pollution prevention. New approaches to iron out the technical difficulties of the 1973 MARPOL Convention. The result was the combined Convention - MARPOL 1973/1978 - which

introduced developments which were not considered in the 1960s, the period of the original Convention. Crude oil washing (COW) systems were introduced, provisions for segregated ballast tanks (SBTs), cargo tank size restrictions and protective locations for SBTs were all considered in depth and procedures were outlined to lessen the impact of accidental and operational pollution. On-board tanker safety was further shored up by the provisions of the SOLAS Protocol regarding the use of inert gases from flue emissions during crude oil washing operations.

In assessing the advances made by inter-governmental actions to prevent pollution, the United Nations Group of Experts on the Scientific aspects of Marine Pollution (GESAMP) states in its 1990 report that:

> "It is difficult to assess how effective OILPOL 1954 and MARPOL 73/78 Conventions have been in reducing marine pollution by oil, but it has been estimated that without the application of these measures, as much as 8 to 10 million tonnes of oil would enter the sea directly each year as a result of pumping out oil-contaminated tank cleaning or ballast water. The amount of oil entering the sea due to maritime accidents has also fallen greatly in recent years thanks to the development of improved standards, navigational aids, training and watchkeeping and traffic separation schemes".[12]

In the 1980s, the evidence of human impact on the global environment began accumulating. Time Magazine referred to the earth as "the planet of the year" and

declared 1988 as "the year the Earth spoke".[13] This period may well be considered as the turning point for public apprehension and concern for the environment. Nowhere in history has global retaliation been more explicit. Heat waves, violent flash floods, crop failures, droughts, polluted waters and beaches, ozone depletion sightings, topsoil erosion, groundwater contamination, etc. all manifested on a worldwide scale and very eloquent in terms of the number of lives and property lost shook governments and individuals awake.

There is nowadays that ever-growing wave of dismay and horror over the earth's situation. Administrative and legislative action by many governments have taken on a higher level of legitimacy. Environmental policy as a universal concern among nations has found expression on many national agenda where previously it was totally unrecognized or was given token appreciation. There is in evidence now of a global mass movement which few societies have sought exemption from. The environment has become the subject of policy issues which cut across traditional policies. Society and governments are realizing that humanity is utterly dependent on a healthy environment. Efficient and profitable exploitation of natural resources do reduce threats from nature. Unrestrained industrial revolution has taught man his lesson. There must occur a shift from an overwhelming emphasis on material values towards greater concern for the quality of life. Policy makers are fast realizing that the traditional yardstick by which societies were measured - economic growth - is no longer appropriate. There is more apprehension about the limits of growth, and furthermore, the destructive effects

of environmental mismanagement has given rise to a perspective more compatible with environmental limits.

It must be noted at this point that at its conclusion in 1992, the Earth Summit Conference at Rio de Janeiro promulgated Agenda 21 - representing a collective environmental action program for the century. Section no. (2) of the said Agenda outlines global commitment to the conservation and management of resources for development. National leaders and policy administrators have pledged themselves to the formation of legal policies based on carefully considered production and consumption, resource conservation, environmental protection and the appreciation of the quality of life and livelihood.

B. Description of the Project.

The underlying intent of this project is to encourage the partnership between the government and the private sector towards a comprehensive marine environment protection strategy. For those engaged in the various maritime industries, this paper shall underline the need to enhance everyone's motivation to implement true environmental values centered on the concept of pollution prevention for the reason that everyone shall benefit from it by doing so. The project shall also require the establishment of an organizational structure which shall serve as the forum for the promotion of co-operation among government agencies, the maritime sector, and the other industry groups.

Nations have realized that the heavy hand of government regulation does not work on its own. Regulatory programs are almost always plagued by problems of non-compliance, litigation, technical loopholes and slow implementation. Moreover all regulatory strategies take time to sink in. They may take years to complete and implement, if realistically at all. To keep pace with the growing number of severity of environmental problems, more and more nations are now relying on the co-operation between the public and the industry sector to achieve national environmental goals.

Science provides a great deal of understanding of the mechanisms of environmental problems. The causes and the solutions however are ultimately a question of human values and human behavior. It is the contention of this writer that the environment is a political issue. Whether or not solutions are effectively applied, they will continue to rely upon politics and policy, upon the attitudes of the nations leaders and the co-operative system involving national agencies, business and industry, non-governmental organizations and a series of often non-binding agreements and agenda between them.

It is admitted that private enterprise has critical roles to play in protecting the global environment. Dealing with business and industry along lines of environmental improvement shall entail the implementation of environmentally sound practices in agriculture forestry, ocean fishing, industrial manufacturing, energy production and waste management. This is not the focus of this exercise. The project does not intend to go about

environmental issues over their full range.

This project aims at the organization and establishment of the Philippine Marine Environment Protection Association (PHILMEPA). It is envisioned as a co-operative alliance between government represented by the Maritime Industry Authority (MARINA), an agency attached to the Department of Transportation and Communications (DOTC), and the business sector which include those private entities involved in shipping (shipowners, operators, charterers), manning (crewing agencies, manpower suppliers), and the seafarers (ship officers and crew). It is intended as a voluntary association dedicated to the protection of the marine environment from all sources of ship-generated pollution.

The the concentration of this paper shall be the heightening of the respective awareness of relevant government agencies having jurisdiction and responsibility for shipping and marine transportation on the one hand, and the shipowning/operating persons, manpower suppliers, employers/principals, shipping and shipbuilding personnel, the maritime academicians and the seafarers on the other. The object of such environmental awareness shall be that of the prevention of further environmental damages due to the introduction of wastes and pollutants into the marine environment as a direct consequence of the transport of oil and oil products, chemicals and other material discharges from ships. The discharges referred to are those which result from operational as well as accidental causes.

The most dramatic occurrences of marine oil pollution, those that make headline news, result from tanker accidents that spill large quantities of oil. They can be prevented. But, without belittling the impact of singular catastrophic incidents, an appreciation of the magnitude of collective spills from operational causes must demand substantial attention. Globally, as a source of contaminants to the marine environment, maritime transport accounts for 12% of the total.[11]

In the Philippines, the number of government agencies and institutions dealing with the environment has grown. These agencies have been supported by a growing body of local, national and international legislation. In spite of these measures, the political will to implement the spirit - let alone the letter - of environmental protection seems to fall short. On the other hand, compliance with the laws still leaves a lot to be desired. There is a gap between the declared aims of government, the industry and individuals, and their performance in solving the pollution problem. This lag basically stems from lack of co-operation as well as the inherent human characteristic to maximize gains and to minimize obligations. Although the environmental is holistic and pervasive, the social response thus far has been to compromise, to accept palliatives, to shift the responsibility onto others, or worse, to deny that a problem exists.

It is the contention of this writer that it is only within the limits of a government and business partnership that an environmental strategy based principally on a commitment to pollution prevention can take effect. The

pollution prevention strategy in the Philippine maritime industries as will be discussed further on therefore involves three levels:

1. The awareness and sensitivity level which outlines the government's role in bringing to the industry the message of global environment degradation and what the industry can do to head off further environmental damage in those areas affected by maritime transport. This will be the subject of the discussion in Chapter III.

2. The formation of an institutional forum of like-minded individuals in the industry to be called the Philippine Marine Environment Protection Association (PHILMEPA), which shall be the association dedicated to the protection of the marine environment from ship-generated pollution. This level shall be taken up in Chapter IV.

3. The action level shall consist in specific activities to be undertaken by the PHILMEPA to influence on-board operational procedures and closer adherence to existing legislation and public policies and agenda in support of maritime environment protection. Chapter V is devoted to the treatment of this level.

C. The Rationale of the Project.

The heavy dependence of the country on the importation of crude oil represents the first criteria for this

writer's option to develop this particular project. The available statistics at the moment bear out the fact that in order to meet our national energy requirements, we have had to import crude oil to the tune of 49.5 million barrels in 1984 which has escalated to 70.8 million barrels at year end 1988 (see fig. 1). This represents a 43% increase in just a span of four years. At the end of 1988, the country was importing 98.7% of the total national energy demand. The National Energy Program since that time, has continued to direct its activities towards the diversification of geographical sources of crude oil but the prospects have not been very good since domestic sources of oil have failed to make significant headway in negating our dependence on foreign crude oil imports.

Philippine Crude Oil Imports (Million Barrels)

Year	1984	1985	1986	1987	1988
Volume	49.5	48.8	50.4	61.1	70.8

Source: OEA, Bureau of Energy Utilization

This implies that, since a massive breakthrough in the search for domestic energy requirements is still a distant possibility, we will have to live with full scale importation of oil. Such importation activities brings with it the potentialities of territorial water pollution from operational as well as accidental causes. Spillages from dumping, tank cleaning, deballasting, not to mention, major spills which may come from grounding or collision are the hard facts we are facing.

The development of a pollution prevention strategy in the maritime sector, involving both the public and private members of this specific industry offers avenues for the elimination, regulation and amelioration of these threats. Hence, this project.

There is also a deep appreciation of the role that the human element plays in the transport industry. Inadequate policy decisions on the part of shipowners, managers, operators or charterers may cause damage first to the ship, a costly private asset, or the environment, which is a collective asset. Depending on the degree of the incident, the effects may well transcend national boundaries. Cost cutting measures almost always translate into mediocre regard or even utter disregard for the requirements of vessel integrity, equipment reliability, personnel training, safety procedures, etc..

The development of a marine environment protection strategy, which will be expounded in the following pages, consists in attempts at bringing together the resources of relevant government agencies and those of the maritime industries towards enhanced environmental consciousness and attitude changes within the members of the industry itself. After all, the closer we come to the potential causes of pollution and accidents, the better we can address the sources. The owners, the ships, the officers and crew all rank very high in the causation of pollution. This project appreciates this fact and proposes relevant alternatives towards environment friendly maritime transport operations.

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CHAPTER I - A REVIEW OF SUCCESSFUL INTERNATIONAL MARINE ENVIRONMENT PROTECTION INITIATIVES.

This chapter is an attempt to outline two specific initiatives, one from government and the other from the business or private sector, which have indicated themselves as successful models in the abatement of environmental hazards and disasters. These are but two ideal models for demonstration and do not necessarily exclude other national environmental response mechanisms which have made laudable headway in the field of marine environmental pollution prevention and control. This limitation of the writer rests in the fact that he had the opportunity to "come close" to these two regimes in the course of his field study program prior to the writing of this paper.

This chapter is divided into three sections. Sections A. and B. shall examine the organization, authority, jurisdiction, mission and activities of these two contrasting institutions. It shall also delve into the successes they have achieved in the field in pursuit of their respective mandates and goals. Section C. shall outline writer's attempts to reconcile the best elements of these of these two approaches leading to their translation into a viable project in the Philippine context. The following pages therefore shall cover the organization and activities of The National Response Team (USA) and The Hellenic Marine Environment Protection Association (Greece). The first is an organization which arose from the collective experiences of American government agencies entasked with environmental protection and conservation, The second is an organization which arose from the

collective will of private individuals and companies in the Greek shipping sector to eliminate all forms of pollution from ship-generated wastes.

I.A. The National Response Team (NRT): U.S.A.

I.A.1. - Organization.

The United States Federal Water Pollution Control Act (FWPCA) of 1972 and the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980 provided among other things, for the establishment of a National Contingency Plan (NCP). The National Contingency Plan, in turn, contains provisions for the creation and establishment of the National Response Team (NRT), the Regional Response Teams (RRTs) and the National Response Center (NRC).[1]

The NRT is composed of 15 federal agencies each having, by national mandate, broad responsibilities in the environmental area. The Participating agencies are as follows:

The Environmental Protection agency (EPA)
The United States Coast Guard (USCG)
The Department of Defense (DOD)
The Department of Agriculture (DOA)
The Department of Health and Human Services (DOHHS)
The Department of Justice (DOJ)
The department of Transportation (DOT)
The Nuclear Regulatory Commission (NRC)
The Department of State (DOS)

The Department of Labor (DOL)
The Department of Interior (DOI)
The National Oceanic and Atmospheric Administration (NOAA)
The Department of Energy (DOE)
THe Federal Emergency Management Agency (FEMA)
The General Service Administration (GSA)

The NRT is the national body responsible for co-ordinating federal planning, preparedness and response actions related to oil discharges and hazardous substances releases. It oversees the nation's ability to respond effectively to oil and hazardous substances incidents. All the agencies involved share their resources and expertise with the NRT.

Not all incidents, however - oil and hazardous substances spills into harbours or waterways, on the ground or into the air - become automatically the responsibility of the NRT. In many cases, the spiller, the owner of the facility or responsible vehicle for the incident undertakes the clean-up. For example, in 1988, no incident required NRT assistance because local authorities managed the recovery and clean up. When local or regional capabilities fail or when additional help is needed, a call to the National Response Center (NRC) will activate the National Response System. The NRC is the primary federal point of contact for reporting all oil, chemical, biological and other harmful discharges into the environment.

I.A.2. Statutory Authorities.[2]

The Federal Water Pollution Control Act (FWPCA 1972, as amended) in Section 311 (k) provided for the allocation of the USD 35 million Pollution Fund. This fund which is administered by the Coast Guard is equally available to the EPA and is used to finance containment, clean up and removal of any pollutant if:

(1) The material in question is either oil or one of the 297 chemicals specified in the Act; and

(2) The spill has entered navigable/tributary waters or threatens to do so; or

(3) The spiller is unwilling to undertake the clean-up or the identity of the person responsible is not known.

The fund is replenished by congressional appropriation on a continuing basis as well as from monies collected through reimbursement processes which are reverted back to the fund.

The Comprehensive environmental Response, Compensation and Liability Act (CERCLA, 1980) established the Superfund for Federal responses to pollution/contamination incidents. CERCLA provided the Federal Government the authority to clean up hazardous substance releases that affect any environment media. It covers approximately 700 hazardous substances but excludes oil-based fuels and natural gas fuels. The latter are covered by the FWPCA. CERCLA also

authorizes the Federal Government to issue administrative orders or to seek a court order directing a potentially responsible party to take appropriate response actions.

The Superfund Amendments and Re-Auhtorization Act (SARA, 1986) is also known as the Emergency Planning and Community Right-To-Know Act. SARA requires Local Planning Committees to develop plans for responding to extremely hazardous substance emergencies and requires facilities to report a variety of information on hazardous chemicals they use or store. SARA also re-authorized the original Superfund at USD 9 billion. This fund is administered by the EPA but is also available to the USCG. The fund may be used to finance an immediate and/or remedial response to either an actual or potential chemical release which may threaten the environment. Superfund monies are accumulated from the revenues relative to chemical production.

The Intervention on the High Seas Act (IHSA, 1974) is closely related to the FWPCA and CERCLA. IHSA authorizes the Commandant of the USCG, after consultation/notification among the State Department, EPA and the International Maritime Organization (IMO) to assume physical control of any vessel (except military ones) on the high seas, regardless of flag, which poses a substantial environmental threat to specific United States resources. Both the FWPCA Pollution Fund and the CERCLA Superfund may be used with high seas intervention activities.

I.A.3. The Federal Regulatory Structure.[3]

The FWPCA and SARA require the development of a National Contingency Plan (NCP) to establish the federal framework for oil and hazardous material spill contingency planning and response organization. The NCP establishes the National Response Team (NRT) which is primarily a national planning, policy-making and co-ordinating body. It does not respond to incidents but sets the guidelines prior to an incident and assistance as requested for the duration of the incident. The NRT membership consists of the 15 Federal Agencies with interest and expertise in various aspects of emergency response to pollution incidents. The EPA serves as the chairman and the USCG as vice-chairman of the NRT.

The National Response Center (NRC) was also established by the NCP. As a direct result of the NCP, the NRC receives reports of spills regulated by the FWPCA. It is staffed by Coast Guard personnel and maintains a 365-day per year, 24-hour telephone watch. Pollution reports are relayed to relevant Federal Agencies depending upon the transportation mode involved, the area and the severity of the incident. During major pollution incidents, it is responsible for briefing senior Coast Guard, DOT and White House officials.

The Regional Response Teams (RRTs) form the second organizational level created by the NCP. Like the NRT, the RRTs are planning, policy-making and co-ordinating bodies. There are 13 RRTs, one for each of the ten Federal Regions and one each for Alaska, the Pacific Basin and the Caribbean. Membership includes representatives of the 15

NRT member agencies which have regional field offices plus representatives of each State within the region. Each RRT is co-ordinated by the USCG and the EPA. Each RRT maintains a Regional Contingency Plan (RCP) and meets semi-annually, or more often if necessary to update its RCP and to provide resource support. The RRT also identifies what resources are available from each Federal and State agency in the region and notes the shortcomings or duplications in resources and equipment, guidance, training and technical expertise for an oil or hazardous substance incident.

The third organizational level created by the NCP involves the local response level. The Local Contingency Plan (LCP) is a specific document which identifies environmentally sensitive areas and the resources at risk. Against this background, the LCP contains a response equipment guide and procedures as well as the identification of operational contacts throughout the local response network. The LCP is developed as an "immediate response" document and needs constant development and updating.

The most important element in the regulatory structure is the role defined for the On-Scene Co-ordinator (OSC). The OSC is the pre-designated Federal Official responsible for ensuing proper pollution response and enforcement. The OSC is responsible for:

- Co-ordinating all federal containment, removal and disposal efforts and resources during an incident;

- Authorizing the control and financing of pollution clean-up/removal operations;

- Serving as point of contact for the co-ordination of federal efforts with those of the local response community;

- Sourcing support and information to the local response community.[4]

The location and source of an incident determines which pre-designated OSC is in charge. The USCG designates the OSC if the incident occurs in the coastal zones, i.e., coastal waters and adjacent shorelines and certain pre-agreed inland river ports and harbours as well as incidents in the Great Lakes. The EPA designates the OSCs for spills or releases occurring in inland zones. For facilities under the custody or control of the Departments of Energy (DOE) or Defense (DOD), these departments designate the OSCs.

I.A.4. The Inter-Agency Response Structures.[5]

The USCG Response Structure: (Fig. I.1.)

The USCG is an agency of the Department of Transportation (DOT). It is headed by the Commandant (G-C) who is delegated by the Secretary of Transportation to discharge the authorities stipulated for the Department by the FWPCA, CERCLA and IHSA. The Commandant designates a representative to act as vice-chairman of the NRT. The USCG

is divided into maritime districts which do not exactly correspond to the respective boundaries of the 10 Federal Regions. Because of this incongruence, co-ordinative action and jurisdictional guidelines are pre-arranged and agreed upon between neighboring District Commands.

Each district is headed by a District Commander (d). The District Commander is assisted by the Chief, Marine Safety Division (m) and the Chief, Marine Environmental Protection Division for each district who usually manages the district's allocation from the Pollution Fund.

The Captain of the Port (COTP) is next in the line of authority after the District Commander. The COTP is normally the Commanding Officer of the Local Marine Safety Office (MSO). The Marine Safety Officer is an important local officer since in pollution/contamination incidents he acts as the USCG On-Scene Co-ordinator. There are currently 48 MSOs within the 10 maritime districts of the USCG.

The EPA Response Structure.

The EPA response structure resembles to a large extent that of the USCG. The counterpart of the USCG Commandant is the Administrator of the EPA. The Administrator's representative chairs the NRT. Instead of the 10 District Commanders of the USCG, there are 10 Regional Administrators (RA). The EPA is represented in each region by the Office of Emergency and Remedial Response (OERR) headed by the Chief, OERR who usually serves as co-chairman of the RRT. The structural network of the EPA ends at the regional level as opposed to the 48 Marine Safety Offices

which extend the presence of the USCG locally. As stated earlier, the Captain of the Port (COTP), the Chief of the MSO, is the USCG designated OSC. In the case of the EPA, the pre-designated OSC in incidents falling under EPA responsibility comes from one of the EPA Regional Offices. The EPA has designated 145 Remedial Project Managers (RPMs) - the EPA equivalent of the USCG OSCs). When an emergency response is required at a Superfund site (inland zones identified as falling under EPA jurisdiction), the RPM at Superfund sites act as OSC. Generally the responses are of a remedial or removal nature.

The On-Scene Co-ordinator (OSC) and the Inter-Agency Local Response.[6]

The center of focus of the federal response effort are the OSCs (USCG or EPA). The federal response procedures are established by the Regional Contingency Plan. The execution of the response plan is orchestrated by the OSCs. The procedures available to the OSC in the event of an incident are as follows:

Assessment: The OSC evaluates the extent of the incident, the potential hazards, the types of resources needed and the ability of the responsible party or local officials to handle the incident.

Monitoring: The OSC assumes the task of monitoring the response action whether the responsible party cleans up or removes the pollutants/contaminants or when the local firefighters, police or other officials

have the capability to do so. The OSC may provide technical advice to ensure that the steps taken are appropriate and effective.

Response Action: The OSC decides whether federal funds are needed to handle an incident. Once federal funds are activated, the OSC is in charge of the response. He may either use the Oil Pollution Fund or the Superfund to secure clean-up contractors and mobilize response equipment, resources and personnel to contain, remove and dispose of the spilled material.

There are also **Special Forces** [7] available to the OSC when a particular kind of technical assistance is needed during a response action. They are as follows:

(1) The National Strike Force (NSF). This is a Coast Guard manned special force composed of four units including three Strike Teams - the Atlantic, Gulf and Pacific. Each team is composed of 35 members who have had specialized training and equipment to contain large-scale immediate response to oil spills and chemical releases as well as the ability to develop safety and action plans and documentation for inland and coastal zone incidents.

(2) The Scientific Support Co-ordinator (SSC). The SSC is a scientific and technical adviser funded by the National Oceanic and Atmospheric Administration (NOAA). One SSC is assigned to each USCG District. The SSC assists the OSCs in the evaluation of

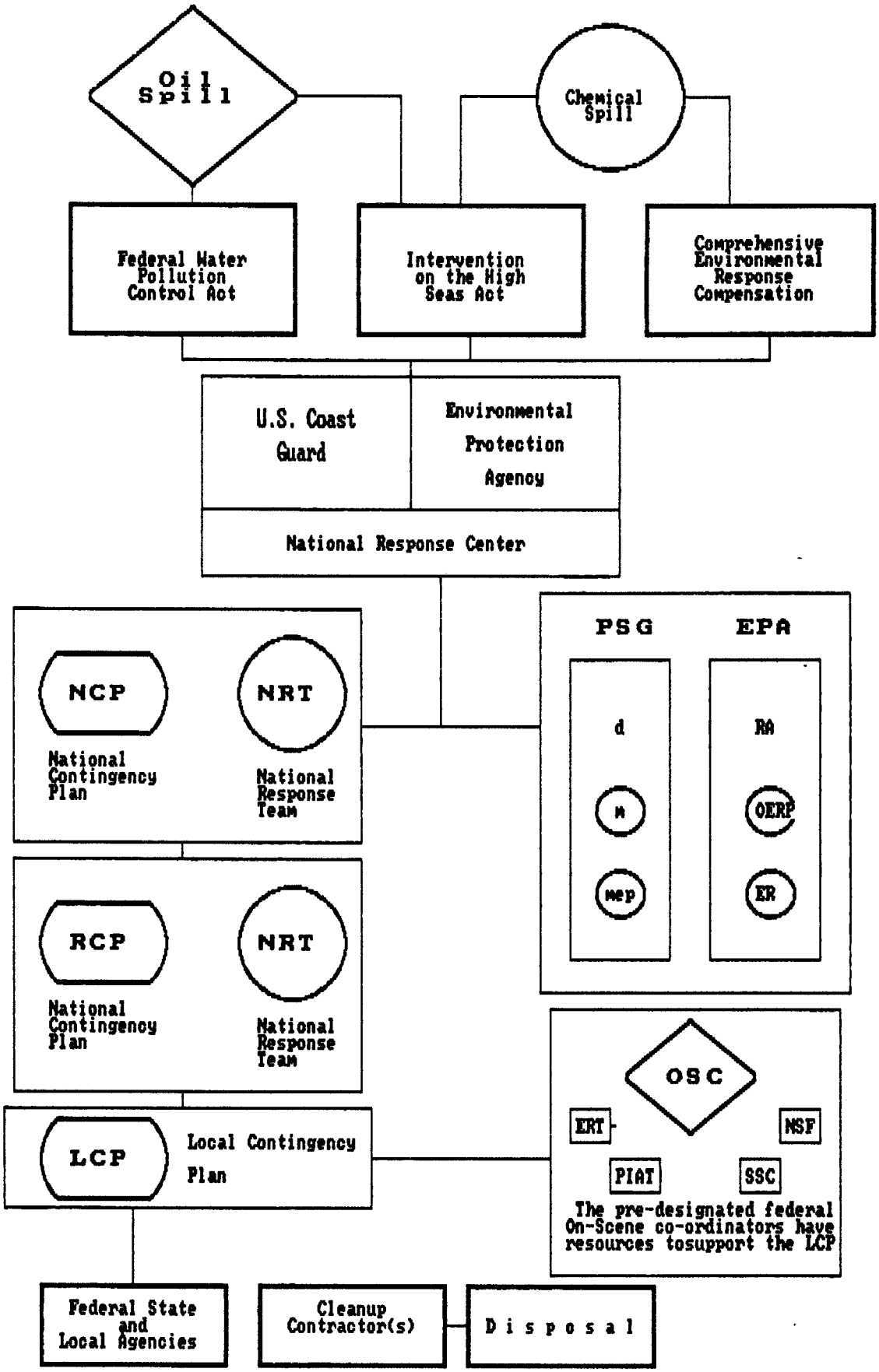
available technical data and serves as the principal point of contact for the members of the scientific community. The SSC network involves detailed and frequent exchanges of information to support one another. Their capabilities include: trajectory forecasting, resources at risk analysis, technical hazard data, contingency planning and general communications.

(3) The Public Information Assist Team (PIAT). This is a highly skilled unit of Public Affairs Specialists funded by the USCG and based in Washington, DC. At the request of an OSC, PIAT is prepared to either complement the existing or provide additional public information capability for an OSC to properly address the role of the media during an immediate response. PIAT maintains and co-ordinates the flow of timely and factual information from the OSC to the public and direct contact with the news media.

(4) The Environmental Response Team (ERT). This is a group of highly-trained scientists and engineers funded by the EPA. The capabilities of the ERT include multimedia sampling and analysis, hazard evaluation, contamination monitoring, clean-up techniques and overall technical support to the OSCs.

During an actual incident, all of the above support personnel as well as the legally established procedures and resources enable the OSC to assemble a multi-disciplinary support group which are otherwise unavailable during an emergency time frame.

The National Response Mechanism



I.B. The Hellenic Marine Environment Protection Association (HELMEPA): Greece.

I.B.1. Organization.

The Hellenic Marine Environment Protection Association (HELMEPA) was organized on 04 June 1982 through the Declaration of a Voluntary Commitment to Save the Seas. This Declaration was signed initially by the founding organizations of the HELMEPA, the Union of Greek Shipowners and the PanHellenic Seamen's Federation. These two private organizations represented by Messrs. A. M. Karageorgis and G. P. Livanos, President and Secretary-General, respectively of the above seafarers union and seamens federation have voluntary committed themselves to the elimination of ship generated marine pollution.

The particular goals of the Association as embodied in the Declaration are as follows:[8]

1) To nurture and instill an increased environmental consciousness in the Greek shipping community, especially in the field of the protection of the marine environment, by using every available means of education, information and publicity;

2) To encourage the effective compliance by all members of the Greek shipping community with current as well as future national and international laws and regulations promulgated to protect the marine environment from ship-generated marine pollution;

3) To co-operate with the competent Government authorities and services, assisting them in everything connected with the collection and filing of data, with International Conventions, laws and regulations, technical developments and methods in general pertaining to the protection of the marine environment;

4) To act as a positive voice for the Greek shipping community in the struggle and the efforts made towards the protection of the marine environment vis-s-vis the Greek Government, as well as the inter-governmental and non-governmental organizations concerned with said protection;

5) To organize and set up a system of collecting and making available information and statistical data on all matters pertaining to the protection of the marine environment;

6) To attend and participate in conferences, seminars and other gatherings which are studying, are concerned with or generally are engaged in the protection of the marine environment from pollution;

7) To promote and contribute by every lawful means to the recognition and praise of those who are contributing to the protection of the marine environment or are presenting worthy achievements in this field, as well to identify and isolate those who have been shown through proper evidence, to have caused pollution.

The basic affirmations of the Declaration are concentrated on marine pollution. The organizational framework of the Association is geared towards the elimination of pollutant discharges into the seas as a result of the operation of marine transport. The human factor occupies the central role in such operations. The Association believes that unless all those who are directly or indirectly responsible for transport (through ownership, employment, by contract, profession or avocation), are properly informed, educated and motivated, there can be no abatement in marine environmental accidents and the loss of life and property at sea.

Since its establishment a decade ago, HELMEPA has in its roster 461 member vessels managed by 82 Greek shipping companies, 6,786 merchant marine officers and crew and 136 Associate Members.

The pre-requisite for membership is that the shipowner, the operator, the manager or agent, marine officer or crew or any corporate entity engaged in the maritime field subscribe to the Voluntary Declaration to Save the Seas.

The declaration itself is very straightforward and outlines the theme of marine pollution as a consequence of human action against the environment. There is also the optimism that ocean resource exploitation is possible without impairing the basic ecological processes. The conduct of maritime transport and the environment form part of an inseparable whole. Emphasis on one to the detriment

of the other will ultimately redound to the decadence of socio-economic advances. There is therefore the element of urgency in the formation of a consensus on the need for concerted action in the maritime sector to combat environmental degradation.

The Declaration recognizes that International Conventions, National Legislation and Regulations represent vital guidelines on environmental protection, pollution control and occupational health and safety. There is also the conviction that environment protection is a responsibility borne by individuals. A private citizen is a manger of the environment. Each capacity in the hierarchy of the industry carries with it the responsibility for the furtherance of environmental enhancement. The individual shipowner is responsible for the seaworthiness of his vessel(s), i.e., safe and environment-friendly equipments, established procedures and shipboard conduct of officers and crew; the officers for oversight of clean and efficient activity; the crew for consciousness of safe and healthy shipboard tasks, etc..

The central theme of the Declaration is the human element in shipping.

> "It took the international shipping community ten years to recognize the fact that no legislation can be effective - especially in shipping - unless the human element is properly informed, educated and motivated. We all know that ignorance, indifference and negligence can lead to maritime accidents resulting in envir-

onmental disaster and loss of life and property at sea"[9]

There is a deep realization that human causation is deeply woven into almost every pollution incident. Hence there is a genuine need for information, education and motivation throughout the whole range of the industry. More attention should be drawn towards management and operational activities. It is on the strategy of information, education and motivation that the Association focuses all its activities. By highlighting the potential dangers of pollution, its global effects, the experiences of societies and groups involved in disasters, etc., the Association believes in human conversion to pollution prevention.

The objective is to change patterns of behavior. One must not only feel good about pollution prevention but must accomplish it each in his own sphere of influence. For owners and managers this must involve a rethinking of their management policies and their re-alignment along avenues compatible with safer ships and cleaner oceans. For the individual seafarer, this means overcoming the obstacles of apathy, callousness and insensitvity to the consequences of all shipboard activities and procedures. Thus, new information, new techniques and new work ethics are continuously being developed by the HELMEPA Secretariat which reconciles shipboard efficiency without prejudice to the marine environment. This is the hallmark of the Association. There is a rejuvenated level of awareness which creates a desirable change in behavioral patterns.

I.B.2. The Marine Pollution Action Plan.[10]

The HELMEPA Pollution Action Plan as guided by the Association's goals has adopted a three-pronged activity program.

The Training and Sensitivity Tasks.

The most substantial contributing factor in the occurrence of accidents which have had serious effects on the environment is the human element. Human error is at the forefront of most disasters. There is hardly any reason to believe that these occurrences are deliberate and maliciously intended. On the other hand, there are existing regulatory practices and guidelines which are prescribed by International Conventions and national regulations. In spite of these, public enforcers still decry the sorry state of compliance. Deficiencies still abound, either in the physical state of ships and standard equipments or in the attitude of the personnel responsible for the conduct of the ship. Established safety procedures are complied with as long as convenience permits them. Short cuts are resorted to when responsible supervision is absent. Or worse, when enforcers are persuaded to conveniently look the other way.

The Association ascribes the above situations to an insensitivity to repercussions. And, the logical retort of the Association is information and training. To accomplish this end, the Association has embarked on a full-scale acquisition of information on pollution prevention. Specific on-board tasks which have potentials for impacts

on safety and the environment were identified. Training syllabi were developed concerning "clean" procedures. Training modules on tank cleaning, alarm systems, radar plotting, Rules of the Road, first aid, etc., were developed so that co-relation to safety, pollution prevention and environmental protection were the underlying themes. In short, procedures were discussed but this time, the reason and importance of their observance were underlined. Separate modules were developed for deck and engine officers and crew. Shipowners, managers and operators were exposed to sensitivity sessions. Publications provide updates on the Association's project targets versus actual achievements. Maritime school instructors have joined the seminar staff. Volunteers from the medical profession provide practical lessons on on-board first aid.

In the pursuit of the information and motivation tasks, the Association has developed a substantial library of training modules for deck and engine training. For each category on board ships, Convention requirements on safety and pollution have been simplified for easy reference. Guidelines and procedures required by law are available in easy to use computer diskettes for speedy on board consultation. Graphic paraphernalia and posters citing environmental catchwords are available from wall-size posters to stamp-size letter stickers. A monthly newsletter keeps members abreast of developments on the environmental scene. Desk top publishing capabilities highlight statistical data on the Association's accomplishments on a regular basis.

The staff composition leaves no doubt about the capabilities that are inherent in the Association. There are chemists, engineers, biologists, geologists and instructors and the co-operative mixture of these talents make up for powerful and effective training programmes.

The Advisory and Co-operative Actions.

These tasks consist in positive interaction with specific government and non-government entities outside the members' circle. Efforts are exerted to bear on relevant government sectors for the ratification and implementation of international safety and pollution Conventions. Guidelines on the adaptation of Convention requirements into national legislation have been submitted for consideration by government authorities. The practicability of existing regulations are tested and suggestions for improvement are submitted. There is therefore an interaction between the subjects of the regulation and the policy-making authorities. Since its inception, four of the seven International Conventions related to pollution which the Association has lobbied for ratification and implementation have been adopted and incorporated in the national regulations.

The non-governmental activities also consist in the area of raising awareness and sensitivity to the environment. The message of environmental protection and conservation is brought to schools, civic/religious organizations, interest groups, etc., through symposia, lectures or mini-seminars. For in situ information, a mobile display unit is available complete with posters,

literature and video equipments. At the HELMEPA offices there is a permanent display on the effects of environmental damages, the means to prevent them and what the Association is doing about the environment.

Enthusiasm for protection and clean-up of specified areas (highly polluted beaches and public places) is drummed up by enlisting groups to engage actual clean-up operations. Data on waste and garbage collected at such operations are tallied in a running total at the HELMEPA office.

Favorable endorsements have been given to HELMEPA by prestigious organizations such as the International Maritime Organization (IMO), The Club of Rome, The International Union for Conservation of Nature and Natural Resources (IUCN), The World Wildlife Fund (WWF), The International Ocean Institute (IOI) and The International Institute for Environment and Development (IIED).

The Administrative Actions.[11]

The highest governing body of the Association is the General Assembly. The Assembly consists of the following types of members:

1) The Sustaining Members:

They consist of all those shipowners, co-owners and operators or managers of at least one vessel of 500 GRT and which vessel(s) is/are registered under the Greek flag. A sustaining member must be of Greek

extraction or at the least, representing Greek interests (as in the case of non-Greek legal entities and must be represented in the Association by a Greek national. Applicants for membership must affirm their willingness to strive for the goals of the Association. Their applications must be co-signed by two other sustaining members.

The contributions of the sustaining members are based on every owned, operated, managed or chartered vessel of 500 GRT and over. Each vessel is assessed a USD 700 contribution per year. All sustaining members have voting rights in the Association.

2) **The Honorary Members.**

Specific groups from the labor sector are admitted into the Association as honorary members. Qualified for membership in this category are leaders of Seamen's federations and unions who through their influence and expertise can lend positive contribution to the goals of the Association. Such members must also represent Greek or Greek-registered federations. They do not have the right to vote as the sustaining members but as honorary members one or more leader may be elected for membership in the Board of Directors representing the seamen's interests. Honorary members are under no obligation to pay any dues or contributions.

3) **The Associate Members.**

All Greek seamen of any rank and capacity can become associate members of the association. Eligibility for this type of membership is also open to Greek shipbrokers, agents, insurance brokers, manning/crewing agents, shipyard and shiprepair outfits, etc., whose respective interests or Articles of Association include concerns for the protection and enhancement of the marine environment.

Associate members do not have the right to vote or participate in the Assembly meetings. Their annual contributions are determined by the Board of Directors.

The General Assembly.

The General Assembly consists of all the sustaining members and the non-voting honorary members. It is the highest governing body of the association. A general assembly meeting is called at least once a year by the Board of directors after appropriate publication of the date and venue in newspapers of general circulation in Athens and Piraeus, Greece. The presence of 50% of all sustaining members constitutes a quorum and an absolute majority vote of the members in quorum constitutes a decision on any subject within it jurisdiction. The Board of Directors, aside from summoning the members to its annual meeting, shall also have the discretion to call up additional meetings within the year or by a written application of at least 20% of the sustaining members.

The General Assembly's duties are:

- the election of members to the Board of Directors;

- the election of Auditors;

- the approval of the Financial Statements of the Association;

- the election of the honorary members of the Association;

- to decide on the withdrawal or suspension of membership in the Association;

- to decide on the annual dues assessments;

- to decide on amendments to the Articles of Association;

- to decide on the relief from duty of any member of the Board of Directors.

The Board of Directors.

The members of the Board of Directors are elected from among the members. The sustaining members elect 8 members of the Board from among their ranks and the honorary members elect 3 from theirs. Membership in the Board are renewed annually by the General Assembly where the Assembly replaces 6 or 5 members (out of the 11) through absolute majority voting.

After election by the General assembly, the Board members elects among themselves the Chairman, Vice-Chairman, the General Secretary, the Special Secretary and the Treasurer. The Board also selects consultants from the industry as well as the Director general of the Association.

The Board meets once every three months or more frequently at the invitation of the Chairman or by the request of at least three of its members.

The duties of the Board are:

- To decide on matters of management of the Association and its assets;

- To represent the Association before any public or individual authority or other private entities or groups;

- The Secretary General takes charge of the minutes of the meeting and the dissemination of which to all concerned. In the absence of the Secretary General the special Secretary takes over;

- The treasurer shall effect the collection of dues and any other payments. He shall prepare the Annual Budget for the approval of the Assembly as well as prepares the annual report on revenues and expenditures;

- The Special Secretary is the liaison between the

Board of Directors and the Secretariat. He shall supervise the operations of the Secretariat. The Secretariat, which is the implementation arm is headed by the Director General of the Association.

- To initiate investigations of complaints form among the members or from outside the Association of "actions contrary to the goals of the Association or intentional commission of an act necessary for the promotion of its goals".

  Any act inconsistent with the Association's goal shall be investigated and verified. Should the findings entail the penalty of suspension or expulsion from membership in the Association, the recommendation of the Board will be submitted to the Assembly for them to vote.

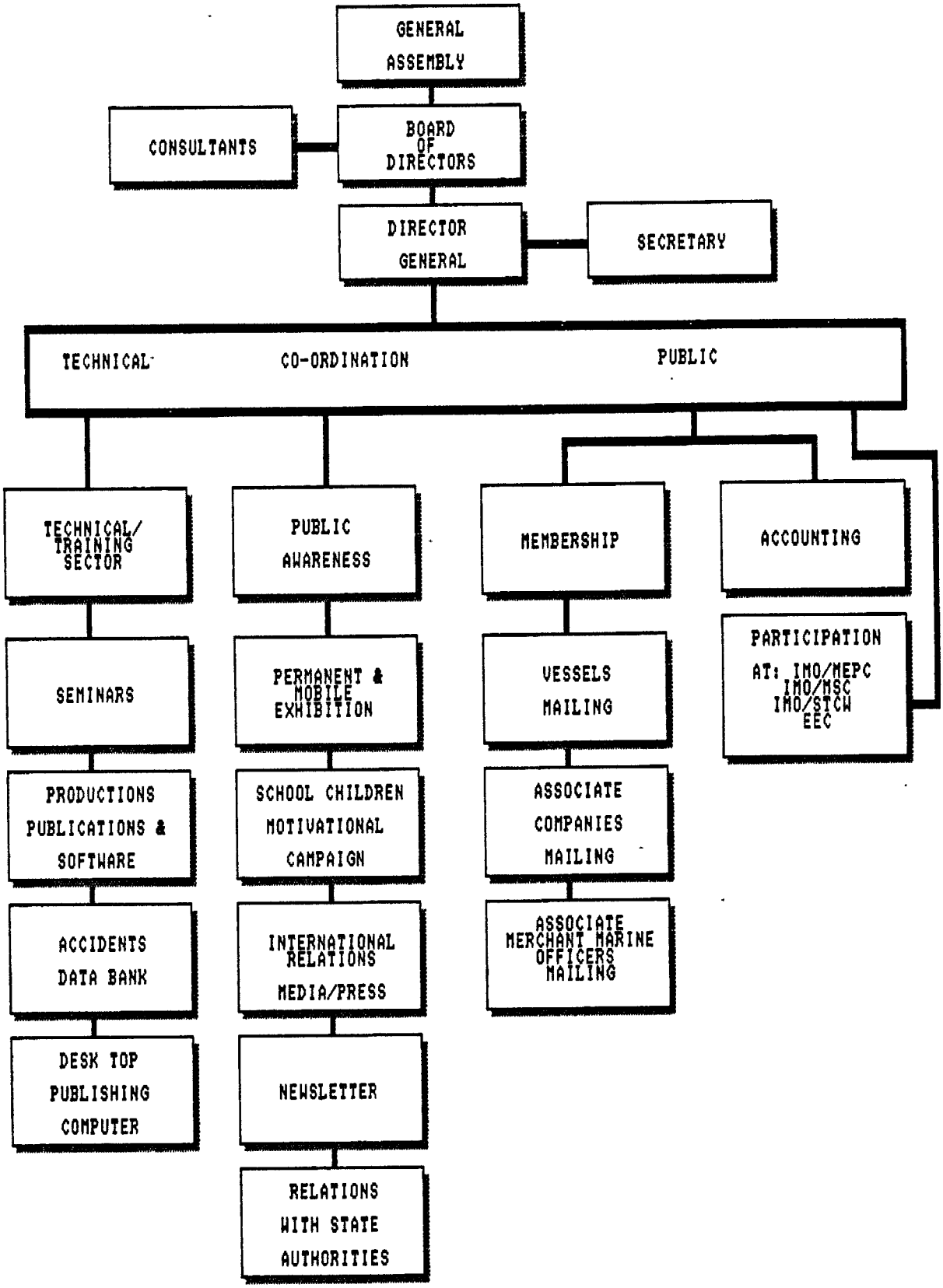
  The Certificate of Membership shall be withdrawn or suspended if the holder:

  i) has been legally convicted for a significant polluting act anywhere in the world; or has been reported (by at least two reliable sources and confirmed by the Association's Board) to have been involved in a significant polluting act; and

  ii) has failed to make a prompt voluntary report to the Association in the case of i); or

  iii) has, in the opinion of the Board, displayed by action or inaction a lack of commitment towards

HELMEPA Organizational Chart



the principles under which the Certificate of Membership has been issued.

I.C. Lessons Learned:

I.C.1. The Need for Sectoral Integration in the Government Pollution Regulatory Mechanisms.

The historical attitude of (the United States) government towards the regulatory system of pollution control has been, on the whole, pragmatic. The early pronouncements have always reacted to environmental problems in a piecemeal manner. Thus, as we have seen in the previous chapter, there were numerous and distinct rules relating to a variety of issues about trees, lakes, mountains, parks, etc.. Consequently, and even in the area of water pollution alone, there was a fragmented approach characterized by the control of this specific target area by numerous sectors acting independently from each other.. As each sector of government found a problem, an entirely new regulation was almost automatically promulgated. This resulted in diverse administrative and enforcement agencies when a closer look at the totality of these problems shall have revealed that the target has always been solely the protection of public health.

The passage of the United States Federal Water Pollution Control Act (FWPCA) in 1972 and the Comprehensive Environment Response, Compensation and Liability Act (CERCLA) in 1980 denoted serious thrusts

in the US Government towards a rationalization of environmental control. CERCLA provided for the establishment of the National Contingency Plan but most importantly, it contained provisions for the creation of the National Response Team (NRT). The NRT is a power-packed coalition of fifteen government agencies each having, by national mandate, broad responsibilities in the environmental area. It is characterized by inter-agency consultation, co-operation and even cross-subsidization of projects, with each member agency contributing its expertise in terms of technical capability, technological and scientific background. Under such circumstances, there is more confidence and assurance that any regulation on pollution could be enforced effectively and the full environmental consequences of any problem area could be assessed more thoroughly in a co-operative rather than a competitive stance by the relevant agencies.

For the consideration of policy makers, this writer has enumerated below some consequences of a fragmented sectoral approach to the problem of pollution which may well be obtaining in the Philippines:

1. Failure to view the environment as a whole: Land-based emissions from factories, municipal sewage, drainage systems, phosphates and nitrates from agricultural fertilizers, pesticides and insecticides, etc., find their way into rivers and estuaries and eventually into coastal waters. A fragmented pollution control mechanism, in the above case, would trigger

various reactions. The environment as a concept, is a series of interdependent sectors. When sectors act individually, there can be a reluctance to deal with the problem on a unified basis. Administratively, the idea of separate bodies with overlapping responsibilities creates tremendous logistical difficulties, misunderstandings arise, inter-departmental communication has its own problems, which can all lead to inefficient control.

2. The absence of uniformity in enforcement:
Each regulatory body possesses wide discretionary powers with which to enforce its statutory duties. Discretion can lead to uncertainty within a control system. Some sectors may take a more rigorous view of enforcement whereas, others may be happier to pursue a conciliatory approach. When a number of statutory bodies control the same process, the use of these different criteria can lead to an imbalance in the protection of the environment as a whole. Where an enforcement body shows a tendency to pursue rigorous levels of enforcement, pollution in that sector may be kept at an artificially low level. However, this might be counterbalanced by a increase in pollution levels to another medium in relation to which the alternative enforcement agency exercises its discretion leniently.

3. Overlapping controls:
One of the consequences of failing to deal with the environment as a whole is that each individual agency has a prescribed area of responsibility. Where, however, there are overlaps in that responsibility, an

uncoordinated approach can bring about ineffective enforcement of the regulations in question.

4. Lack of public accountability:
Finally, where there are many responsible agencies, there is often a problem with a lack of public accountability. Any observer can have a difficulty in ascertaining which body is responsibility for a particular activity. The person in the street has very little chance of knowing who to turn to. Other more obscure agencies are not fully recognized by the public. Where there is obscurity, then the accountability of these bodies is also obscured. For an administrative and bureaucratic system to work effectively, the public need to recognize who controls what and how they do so.

I.C.2. The Importance of Private Sector Participation in Marine Environment Protection.

The fundamental factor which has contributed largely to the success of HELMEPA is its continuing ability to enlist the commitment of the members of the maritime community towards the prevention of marine pollution and environment protection. The shipowners' attitudes towards safe and clean operations are reflected in the efficiency of their vessels as well as their manpower complements, the officers and crew. The renewed awareness of the shipowners and their sensitivity to the environment have taken the concept of shipping and transport to newer heights. Environment concern has become a necessary component to the industry.

The voluntary commitment of the private sector to address marine pollution provides a totally new dimension to the industry. In an industry where the traditional propensity to cut costs has become the mandate in order to gain economic advantage, the decision to commit one's assets voluntarily consists a bold step. Nevertheless, the conversion of the leaders of the industry to the protection of the marine environment becomes more significant for the following reasons:

1. Shipowners exercise the greatest level of influence over the disposition of their ships in terms of the integrity of the vessels themselves, their seaworthiness, the necessary safety and operational equipments, the quality of the officers and the crew. The environment conscious owner therefore makes for safer ships and cleaner seas.

2. A keener sensitivity to the environment denotes on board behavioral changes brought about by prescriptions from corporate guidelines. This derives more importance from the fact that it involves source changes where it matters most, i.e., the human factor in shipping (the officers and crew) which represents the front line of ship operations. One cannot come any closer in addressing the problem of ship generated pollution when the human element becomes the focus of outlook and attitude changes directed to environment friendly ship operations. Only the private sector is in the best position to effect these changes.

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Chapter II - THE PUBLIC MARINE ENVIRONMENT PROTECTION REGIMES IN THE PHILIPPINES

The purpose of this chapter is to outline the basic legislative pronouncements in the country which have formed the bases for subsequent legislation regarding the marine environment, its protection, enhancement and the enforceable regulations pertinent thereto. These selected national laws have formed the environmental orientation of the country as well as the present regulatory and enforcement bodies on marine pollution in the Philippines.

II.A.1. R.A. 3931 - The National Water and Air Pollution Control Commission of 1964.

The National Water and Air Pollution Control Commission was created under Republic Act (R.A.) 3931 in 1964. Incidentally, this was also the year when the Philippines joined IMO. Prior to this date, there was no specific public agency responsible for the administration and enforcement of pollution laws and environmental protection. The prosecution of offenders and violators, whenever apprehended, was entrusted through criminal proceedings in the regular courts of justice. This system of enforcement therefore raised serious doubts as to the general compliance because there was the absence of specific laws and enforcement authorities.

R.A. 3931 was the first real attempt of the government to exact compliance to environmental laws through social legislation. Subsequent legislation shall refer to the

provisions of this Act. The commission had seven members, of which five were part-time and two-full time. The part-time members were the chairman of the National Science Development Board, who was also the Chairman of the Commission; an officer of the Department of Health designated by the Secretary of Health; an officer of the Department of Agriculture and Natural Resources, designated by the Secretary of Agriculture and Natural Resources; The remaining two represented the private sector and were appointed by the President with the consent of the Commission on Appointments, one on recommendation of the Philippine Council of Science and Technology and the other on the recommendation of the Chamber of Industries of the Philippines. The two full-time commissioners were appointed by the President of the Philippines with the consent of the Commission on Appointments. One of the full-time commissioners must be a sanitary engineer; the other must be a lawyer.[1]

Apparently, problems were posed by the organization of the commission itself. The part-time members could not give enough time to the work of the commission; the number of members posed difficulties in securing a quorum to do business; responsibility was too diffuse. The inevitable result was the delay in carrying out the work of the commission. In 1976, during martial law, the commission was re-organized. Membership was reduced to three, with a full-time Commissioner assisted by two full-time Deputy Commissioners: one for standard setting and monitoring, and the other for enforcement. To assist the Commissioner in policy formulation, an Inter-Agency Council was attached to the commission. The council consisted of representatives

designated by ministers of nine ministries, and the heads of four special agencies , and was presided over by the Commissioner (Sec. 3 and 4, Presidential Decree (P.D.) 984).

Under its original charter (R.A. 3931), the commission was assigned broad functions, powers and responsibilities. These may be classified as follows.

(1) Research and studies, directed towards amassing adequate and reliable information on pollution in the country;

(2) Plans and programs directed at pollution control.

(3) Standard-setting, directed at standards and guidelines for its operational functions of licensing, approval of plans and systems, issuance of specific orders to control pollution, and determination of violations of the law or its own orders;

(4) Monitoring, directed at current information and developments as a basis for administrative decisions in the discharge of its functions;.

(5) Investigation, directed at a determination in specific circumstances either of pollution , or violations of the law, specific permits, orders or regulations;

(6) Enforcement, directed at prevention or abatement

of pollution through specific orders, and at the imposition of sanctions upon offenders in the form of cancellation or suspension of permits, criminal penalties and/or payment of damages.[2]

All these functions, duties and responsibilities are continued under the amending decree (P.D. 984), some with substantial modifications.

II.A.2. Observations Regarding R.A. 3931.

Republic Act 3931 providing for the establishment of the National Water and Air Pollution Control Commission represents the country's first attempts in addressing national pollution issues. R.A. 3931 however displayed its flaws through the irreconcilable nature of its organizational composition and its assigned functions.

On the one hand, there are five part-time and two full time members of the commission. The part-time members including the head of the commission are all government officials who hold positions of responsibility in their respective agencies. The two full time members come from the business sector. On the other hand, the commission was assigned very broad functions, powers and responsibilities. The commission is responsible for the totality of environmental competency. The task of research and development, policy and plans development, standards and guidelines setting, monitoring, enforcement and liability determination - all to be performed by the commission is simply staggering.

P.D. 984 which amended R.A. 3931 not only retained the above powers and responsibilities but added still broader dimensions to the magnitude of previous tasks. Under the original charter, the commission was to determine if pollution exists in any of the waters of the country, but under the amending decree (P.D. 984) this function was greatly broadened, as the commission is to:

> Determine the location, magnitude, extent, severity, causes, effects and other pertinent information regarding pollution of the country ... and conduct continuing researches and studies on the effective means for the control and abatement of pollution (Sec. 6 (a)).

Ancillary to this broad function are its powers of monitoring conditions relating to pollution in general and the investigation or inquiry into specific situations of pollution, for the purpose of formulating remedial orders or issuing regulations.

At this point, it should be pointed out that due to the recognizable fact of personnel limitations within the commission, the commission is advised that it ... "may co-operate with any public or private agency in the conduct of such experiments, investigations and research, and may accept sums of money, for and in behalf of the National Government, given by any international, national, or other public or private agency for water, air and land pollution control activities, surveys or programs "(Sec. 5).[3]

Under R.A. 3931, the commission is responsible for the preparation and development of a comprehensive plan for the abatement of existing pollution levels and the prevention of new and/or imminent pollution of the waters and the atmospheric air of the Philippines. Under the amended charter (P.D.984), however, this responsibility of the commission became subjected to the requirements of national development.

> Sec. 6, P.D. 984 states that it shall... "develop comprehensive multi-year and annual plans for the abatement of existing pollution and the prevention of new or imminent pollution, the implementation of which shall be consistent with the national development plan of the country".

The significance of this qualification introduced under the amended charter should not be missed. The plan for the national development of the country has top priority. Hence, the requirements of "national development" will be pressed as a matter of national policy, even at the risk of serious pollution. The matter of new or imminent pollution, even if serious, must be sub-ordinated to the demands of industrialization which was the end-all of every government undertaking during the period. This aspect of current policy deserves careful study for the reason that in particular projects, the risk of serious pollution may well outweigh the gains of the nation. In such cases, a long view of the national interest may well compel sacrifice of the goal of industrialization, in order to avoid serious damage to the environment and/or to the population. Up to the present a heavy premium is paid

towards industrialization and national development. There is still the inflexible insistence in government circles towards more infrastructures regardless of social costs.

With the creation of the Ministry of Human settlements which embraces all agencies concerned with environment protection, the commission, which thus far had been under the Office of the President, has now become an attached agency to the Ministry On Human Settlements (MHS). This attachment shall prove to be an awkward union. There was bound to be that inevitable clash between the orientation of MHS towards the urgency and priority of national development against the demands of ecological and environmental sobriety. And, there was no way that the development priority was going to lose out. The programs of the commission have almost always buckled . In the words of Mr. H.C. Talavera, then the Deputy Commissioner for Enforcement of the commission,

> "In view of the magnitude and complexity of its mission, more often than not marred by the reluctance, if not open defiance, of pollution sources, the commission is not without any constraint or problem. (The commission) ... is handicapped by meager resources and logistics. This is aggravated by the fast turnover of its technical personnel, few that they are, who resign or transfer to other government offices or private establishments which offer better salaries and incentives. Then there is the other equally important problem of inadequate motor vehicles and sophisticated equipment and laboratory facilities that are essential for research and analyses of

various types of pollutants and establishment of baseline data. Last, but not least, are the policy issues deeply connected with enforcement action".[4]

Undoubtedly, R.A. 3931 and its amending decrees, P.D. 984 and P.D. 1181 marked the first attempts at meeting the threats of environmental degradation. There is much room for improvement. National priorities must definitively be realigned. Development objectives must reconcile with the near and long term onslaughts to renewable and non-renewable resources. There are at least 22 agencies mandated with the establishment of environmental management policies. The delineation of specific areas of authorities and jurisdiction must be properly resolved and mutually understood among the involved agencies. Finally, great caution must be exercised such that imported industrial technology is carefully assessed lest the country inherit processes which otherwise would have been condemned or deemed unacceptable in the country of origin.

II.B.1. P.D. 600 - The Marine Pollution Decree of 1974.

On 09 December 1974, Presidential Decree (P.D.) No. 600 - The Prevention and Control of Marine Pollution - otherwise known as the Marine Pollution Decree of 1974 was the very first attempt of government to appreciate the dangers posed by the introduction of pollutants and contaminants specifically oil, into the inland and sea waters. It also marks the first attempts to introduce into the national law the obligations brought about by the Philippine accession to the International Convention for

the Prevention of Pollution of the Sea by Oil (1954 OILPOL, amended 1962, 1969). P.D. 600 specifically prohibits the spillage of oil or any hazardous substance or noxious liquid substances within the territorial and inland waters of the country. The prohibition includes the disposal into Philippine waters of water from normal operations of sea and aircraft and also from man-made platforms. The discharge of waste material arising from offshore sea bed exploitation or from the recovery of mineral resources is also regulated.[5]

As a matter of policy therefore, P.D. 600 establishes the national endeavor "to prevent and control the pollution of the seas from the dumping of wastes and other matter which create hazards to human health, harm living resources and marine life, damage amenities or interfere with the legitimate uses of the sea within the territorial jurisdiction of the Philippines".[6] The decree further authorizes the Commandant of the Philippine Coast Guard to prescribe rules pertinent to the purpose of the decree.

Interestingly enough, the section dealing with responsibility for oil spills does not categorically affirm the "polluter pays" principle but rather that the person responsible for the spill may be liable for any clean-up costs. Finally, the PCG is tasked with the responsibility for developing an adequate capability for containment and recovery of spilled oil in the territorial waters and the initial amount of 2 million pesos was allocated for the purpose.

As a corollary to P.D. 600, the National Oil pollution Operations Center Decree (P.D. 602 - Establishing Oil Operations Center in the Philippine Coast Guard Headquarters) was signed into law on the same day as P.D. 600. This law gave birth to the establishment of the National Operations Center for Oil Pollution (NOCOP)under the auspices of the PCG. As such, the Philippine Coast Guard became the lead office in charge of implementing the National Plan for Oil Spill Contingency which was promulgated on 30 June 1975. Organizationally, the NOCOP is headed by a director who exercises overall responsibility in the containment, removal and treatment of marine pollution in all bodies of water in the country. The Director is based at the South Harbor in Manila. In an oil spill incident he is assisted by consultants who are drawn from representatives from other government offices as well as private agencies. The Director orchestrates all pollution control efforts through a designated On-Scene-Commander (OSC) who is the PCG Station Commander in whose area of responsibility the spill has occurred. On site, the OSC relies for immediate assistance on local authorities, military and civilian, PCG response personnel, the capability and resources of the spiller and local salvage teams if they are available.

II.B.2. Observations Regarding P.D. 600 et. al.

Under P.D. 600 the co-relation between oil and public vessels (owned, controlled, operated and/or chartered by both government and private entities) is established for the first time.

In its present form, P.D. 600 states that the owner or operator of a vessel or facility which discharges oil or oily mixture may be liable for any clean-up costs (Sec. 7). No liability limit is prescribed in the decree. Failure to report the discharge however carries a penalty of PP 10,000.00 (Philippine Pesos) or imprisonment of not more than six months but not less than 30 days.

P.D. 979 -Providing for the Revision of P.D. 600 Covering Marine Pollution - known as the Marine Pollution Decree of 1976 has defined the limits of liability for violators:

> Any person who violates Section 4 of this decree or any regulations prescribed in pursuance thereof, shall be liable for a fine of not less that PP 200.00 or more that PP 10,000.00 or by imprisonment of not less than 30 days or more that 1 year or both for each offense (Sec. 7).

What about the clean-up costs in excess of PP 10,000 (about USD 440)? In the case of Clear Water Act (CWA) of the U.S.A., without proof of willful negligence or misconduct and only of the basis of the spillage, Exxon's Liability (in the Exxon Valdez incident) is USD 150 per gross tons of the vessel or a total of USD 14.3 million. If negligence or willful misconduct is proven, the liability is unlimited. Note that on the 22nd day only of the incident, USD 13 million has already been obligated from the fund created by CWA.[7]

The above example of the Exxon Valdez is obviously an extreme but it is here meant to illustrate the distorted proportion between the probable damage and the lawful limit under Philippine laws. The equivalent amount of USD 440 may well be one of the reasons why a tanker officer may opt to pump out oil wastes while traversing Philippine waters. Where laws are silent on liability (or minimal liability provided) there exist options to settle up, to the disadvantage of the threatened resources and the long-term damages concomitant to the discharge.

The costs cited in the Exxon Valdez above were those incurred during clean-up operations. What about damages to third parties? Immediate relief for claimants is not provided for in Philippine law. Litigation to prove culpability and negligence take time, and there are no legal provisions to support affected parties pending compensation of their claims. Congress should enact comprehensive oil spill liability and compensation provisions along lines detailing clear settlement of clean-up natural resource restoration and third party damages.

For a guaranteed relief and relatively equitable settlement of oil pollution damages, and at almost no cost to the government, ratification and incorporation into national laws of the 1984 Protocols to the International Convention on Civil Liability for Oil pollution damage, 1969 and the International Convention on the Establishment of an International Fund for Oil Pollution Damage, 1971, is strongly recommended.

P.D. 600 which was signed into law on 09 December 1974 also designates the Philippine Coast Guard (PCG) as the principal public agency for regulation, monitoring, enforcement and response tasks.[8] This, in effect, raised ambiguities as to the relationship between the National Pollution Control Commission (NPCC) and the PCG. Both agencies have rule-making and enforcement authorizations, one from R.A. 3931, the other from P.D. 600.

The pragmatic solution to this impasse was the passage on 18 August 1976 of P.D. 979 - The Marine Pollution Decree of 1976 which amended the provisions of P.D. 600 covering marine pollution. The solution was: "... it shall be the joint responsibility of the Philippine Coast Guard and the National Pollution Control Commission to co-ordinate and co-operate with each other in the enforcement of this decree and its implementing rules and regulations..."(P.D. 979, Sec. 6).

In practice, the ground rules established are such that spills or releases to coastal zones (coastal waters and adjacent shorelines) determines the responsible agency, and, in this case, the Philippine Coast Guard. For inland areas, the NPCC mandate obtains.

There are 150 principal river systems in the Philippines. All of them are characterized by the industrial firms, private residences and mining operations which line their banks.[9] Industrial wastes, household sewage and mining tailings collect in the rivers and finally find their way into the coastal waters and the seas. There is no doubt that the problem of estuarine and

water pollution is inextricably linked with the problem of inland water pollution. How then does the co-operation principle as prescribed by P.D. 979 stand as regards the enforcement and implementation tasks of the two agencies?

Obviously, zones of competence and authority must be identified further and clarified among the participating agencies so that the object of the exercise, the protection of the marine environment, will not be caught up in the cross-fire of departmental infighting.

While it is admitted that marine pollution in the Philippines is limited to a few specific areas, it should, by no means result in affording the pollution problem a different position in the order of priorities of the country. The level of seriousness with which a country has imbibed environmental concern may well be reflected in the resources it has disposed for pollution prevention, control and abatement. The following text may indicate the inadequacy of resources needed for environmental protection in the country.

PROBLEMS ENCOUNTERED ON MEP[10]

Limited Response Capability - response to pollution incidents are hampered by the limited equipment available. The exhorbitant costs of peculiar items to pollution control makes procurement difficult. The acquisition of new technology and devices is likewise hampered by financial constraints.

Adherence to MARPOL Requirements - in a Third World country where most of the commercial bottoms are second hand vessels, operators find it hard to adhere to MARPOL requirements like oil-water separators and related equipments because of the expensive capital outlay they entail. In addition, the standards set by various international conferences like MARPOL 73 are very hard to attain in relation with the capability of a struggling domestic shipping industry.

Lack of Trained Personnel - There is a dearth of personnel who are specialists in marine pollution control. Agencies concerned in the prevention of pollution are often understaffed and the frequency of training programs are usually dependent upon the availability of funds.

200 mile EEZ Implication - while the concept of the 200-mile exclusive economic zone augurs well for the Philippine economy, it greatly expands the responsibility of the country in monitoring and protecting this vast marine environment. This responsibility calls for the additional monitoring capability and the acquisition of equipment that can effectively protect this vast zone.

During the last few years, governments and the public have come to realize that we cannot continue to use the seas (and, indeed, the whole environment) for the uncontrolled disposal of waste without endangering its usefulness as a source of food, a medium of transport, trade and recreation. The result has been a dramatic

increase in both national and international co-operation for the prevention and control of marine pollution. This much is encouraging. But a great deal more needs to be done.

National legislation for preventing and controlling pollution are still inadequate. On the other hand, the pollution of coastal sea waters is still considered marginal in many government circles. There is also the predisposition to nurture the expected benefits of increased industrialization regardless of the long-term environmental impacts. Existing penalties prescribed by law are well within the "absorbable losses" category of potential polluters. Too many public administrators still consider the sea as a convenient receptacle for all forms of operational and industrial discharges. They do not object to the discharge of harmful substances into the sea, provided it is done at a proper distance from shore. There is still the ambivalence between the need for preventive measures and compensation. Regulation may inhibit investment in the country, especially foreign investment!

The problem of environmental pollution has been created by technology and that same technology must combat it. An effective system of sanctions and incentives should be created which would help to eliminate pollution or, at the very least keep it within healthy limits. Nevertheless, it seems that those who cause pollution should bear the responsibility for preventing or rectifying it. The prevention of pollution must be one of the costs of business operations. Therefore the probable sources of marine pollution should bear the cost of preventive

measures and those, who have definitely caused pollution should be fully responsible for the damage and the cost of clean-up.

Legislation on marine pollution however must be envisaged as accompanying public commitment. It necessitates collaboration between government and the responsible leaders of the industry. To enable governments to perform their tasks, it is necessary to arouse public interest. Society needs more information on the near and long-term consequences of marine pollution particularly those consequences that will affect future generations. There is a need to intensify the concern of the maritime industries about the degree to which their activities affect the environment. This is the time when the relevant government agency must examine the experience of the maritime sector's development, the environmental problems generated or suffered by it, the likely pattern of future collaboration and the policies to be evolved if the development is to be rational.

Finally, it is the contention of this writer that marine pollution measures are most effective the higher they are applied in the chain of causation. The brunt of oil pollution and spillages due to accidents occur within the total framework of the maritime transport and the support services. The players in this particular sector therefore rank high in the chain. Hence they must be afforded the more substantial participation if the public and private collaboration towards environmental enhancement is to be successful.

The following chapter therefore outlines the options available to government in motivating the members of the maritime community in the strategy of safe ships and cleaner oceans. This shall compose the first stage of suggested government activity towards instilling in the industry a deeper sense of environmental consciousness leading to a formal declaration of commitment - the commitment to protect the environment from all sources of ship-generated wastes.

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Chapter III - ORGANIZING THE PHILMEPA: An Attempt Towards The Formation of a Marine Environment Protection Strategy.

To achieve effective, unified action at the local, national and even global levels to prevent further planetary destruction, the public demand for the strategy of protecting the environment is required. This public demand for positive action cannot however be articulated unless there is a perceived feeling of responsibility for the environment. All those whose interests lie in the maritime spheres require serious introspective behavioral change. It is necessary that they accept the responsibility to use their latent powers and change their daily behavior as investors, decision-makers, workers and even consumers.[1]

The deteriorating physical state of the planet Earth and the failure of existing institutions, technologies, policies and political leaders to anticipate and solve environmental problems point to the need for individuals to take more responsibility. The need is to enhance everyone's motivation to implement true environmental values centered on the concept of pollution and environmental protection because everyone will benefit from doing so. The idea of marine environmental protection should and can be used as the unifying principle for a comprehensive environmental strategy in the maritime sector.

III.A. The First Step - Awareness and Motivation.

In order to achieve a responsive marine environmental protection strategy for those involved in maritime transport, I have underlined three levels of activities. It must be noted that these action stages shall be undertaken by both the public and private sectors together with the appreciation of the resources at their command and how such resources shall be applied in relation with the following levels of activities:

1) Raising environmental awareness in each individual involved with maritime transport;

2) The practice of the renewed consciousness within a mutually agreed framework (Chapter IV);

3) Explicit activities to influence public policy and the agenda of other private organizations (Chapter V).

Step one has the objective of changing patterns of behavior. Every private citizen is a manager of the environment. Adopting a pollution prevention strategy institutionalizes the responsibility of every person to do everything reasonably possible to prevent pollution as a direct or indirect consequence of his own activities. Indded, every level of human activity has environmental dimensions.[2]

It is at this level that government through the Maritime Administration shall have a crucial role to play.

In the pursuit of the marine environment protection strategy, the Administration must act as the catalyst in setting the stage for the responsible members of the maritime industry to meet. As a regulatory agency responsible for the commercial operations of the maritime industries, the legitimate use of its influence over these persons shall have to be mustered. Shipowners, operators, crewing/manning managers, heads of shipping and seamen's organizations, the seafarers, oil using and importing companies, brokers and chandlers, shipbuilders and shiprepairers, as well as other public regulatory and enforcement agencies - all have interests and responsibilities related to transport and the marine environment. The role of the Administration consists in a series of meetings with the industry with a view towards putting across the message of global deterioration and what each sector can contribute to the alleviation of further threats to the environment.

Over the years, as people have heard about the different forms of pollution and have built up feelings of dread, fear and anxiety, almost always industry has been seen as the culprit. This may not seem altogether true. Even though industrial and many government facilities are major waste generators and polluters, a lot of pollution also comes directly from the activities of individuals in their role as consumers. The intention however is not to address all forms of pollution. The focus of all activity here is towards the "cleaning of our own backyard", i.e., the constructive options which could be taken in the conduct of enterprises within the area of marine and maritime transport. Saying yes to these options shall have

gotten us the first step towards a pollution strategy. But how can this be done?

> "Natural disasters are almost always experienced as acts of God or caprices of nature. They happen to us. Technological disasters, however, being of human manufacture, are at least in principle preventable, ... they provoke outrage rather than acceptance or resignation. They move people to a feeling that this thing should not have happened, that someone is at fault, and that the victims deserve not only compassion and compensation but also something akin to what lawyers call punitive damages".[3]

If there are elements which can awake the sensibilities of leaders in the industry, they can be found in this quote. They are the human element in the industry, the prevention principle and public accountability.

III.A.1. The Human Element

It has been generally agreed that about 85% of maritime accidents are related to human error. The the fault factor causing a disaster almost always occurs on board ships. More particularly, ship masters, officers and crew are the immediately pinpointed culprits. Collectively, they are still servants of the owner/operator. Hence, responsibility and liability always rebounds back to them. The owners and senior managers understandably are responsible for wide areas. They cannot be expected to know all the technical details on board their ships. They must however achieve a sufficient consciousness of the

involved danger (and costs) so that the introduction of appropriate and adequate safety and prevention measures are initiated. Their financial, administrative and organizational decisions have to be placed on a sound basis.

The task of the Administration in this stage is to sensitize the industry members on the matter. It consists in an appeal to the critical role of the human element in shipping operations and that any miscalculation becomes a threat to their interests.

It is an admitted fact that the present situation of transport safety in the Developing Countries requires considerable improvements. Operational safety in the conduct of oil and other pollutants is only part of the overall safety questions, but a very important one. More emphasis on safety and pollution prevention would mean a considerable enhancement of the general safety situation. The most effective way of improving certain conditions is provided by raising the general education and information level. Clean operations certainly pay. The Administration must eradicate the reluctance to invest in anti-pollution measures where shipping managers have not previously costed these into their capital or operational expenditures. Some of the benefits of pollution prevention and control appear as intangibles - the esthetic, the recreational value and the moral principles - against the tangible benefits of commercial and technological growth. It will be a tragic commentary on our society's values that immediate economic advantage is often preferred regardless of other consequences. This argument however is more apparent than

real, because only immediate gain in economic progress at the expense of environmental and moral principles proves to be the rule in the long run.

Industry leaders and managers who have infused safety and the environmental philosophy in their overall operations necessarily reflect increased integrity in their vessels and their complement crew. This has translated into savings avoidance of otherwise unnecessary delays.

In November 1988, the U.S. Coast Guard published a report of data on inspections of Greek vessels calling at U.S. ports. Accordingly, 71.48% violations were certified on non-HELMEPA member vessels and only 28.52% on HELMEPA member vessels.[4] In the area of officers and crew selection, it is an acknowledged fact among Greek employers that there is a marked preference for the election for employment of card-bearing HELMEPA member officers and crew. The HELMEPA membership card attests to the training undergone by Greek seafarers in the field of operational safety and environmental sensitivity. To manning and crewing agents in the Philippines, this additional qualification and competency element puts decided premium on the quality of their manpower pool. For illustration purposes the Administration can capitalize on this element when dealing with manning/crewing agents of which there are over 350 in the country.

III.A.2. The Prevention Principle

One of the emerging informal environmental laws of today states: "If you don't put something in the

environment, it isn't there". Herein lies the very important difference between pollution prevention and traditional waste management and pollution control. This is profoundly important but, for most people, difficult to understand because it seems unimportant in terms of solving real environmental problems.

The impact of a pollutant on the environment can be remedied two general ways: either the activity that generates the pollutant is changed to eliminate it; or, without altering the activity, a control device is added that traps or destroys the pollutant before it can enter the environment. The first is prevention, the second, control.

No control device is ever perfect. The catalytic converters which are attached to automobile exhausts are designed to destroy carbon monoxide and unused gasoline. Conventional power plants have been equipped with scrubbers that trap sulfur dioxide and dust. These approaches are mere sleight-of-hand tactics. They merely secrete the pollutant for a time in a less noticeable part of the environment. They do not really halt pollution. The catalytic converter's effectiveness rapidly declines with use. At its most efficient rate, the converter is designed to trap 96% of the exhaust's carbon monoxide. But tests have shown that with more than 50,000 miles of use, only 10% of cars meet carbon monoxide emission levels. A power plant's scrubber can trap only 70 to 90% of the plant's sulfur dioxide emissions.[5] In sum, a control device always allows some pollution to enter the environment, so that increased productive activity negates the device's intended effect.

Pollution control is utterly expensive. One of the blatant criticisms leveled at the U.S. Environmental Protection Agency (EPA) is that it has at great cost, created a monumental technical and administrative apparatus to establish allowable standards, to define the control procedures that are expected to achieve them and to enforce the resultant regulations. A list of 297 pollutants was drawn up and air pollution standards for each of them were designated. EPA also publishes "rules" or detailed specifications on how to reduce oil pollutants to specified levels. The creation of this elaborate and costly machinery has produced relatively little in terms of concrete improvement in environmental quality. The environment is not better off if "tolerable" levels are allowed. This legalization of pollutants erodes the integrity of regulation and diminishes the public faith in the meaning of environmental legislation.[6]

In reactive pollution control strategies such as the above, the attempts are directed at the effects. Thus the efforts of maritime regulations almost always identify what is to be protected, i.e., human health and water quality. Next, the nature and level of "acceptable risks" to what is being protected are categorized. Specific risk levels become unacceptable. Environmental guidelines are set for acceptable levels of direct releases to the environment. Acceptable levels of contaminants are also set for valued assets like water, fish and people.

Setting safe or acceptable levels is very difficult, costly and slow. It brings in voluminous scientific,

political and bureaucratic processes. It is a reactive measure in which economic efforts are given equal importance with environmental effects. The inevitable result of the pollution control effort therefore is that not all environmental wastes or assets are controlled or not effectively enough to truly protect human health and natural resources. Tall smokestacks keep only the immediate area clean at the expense of more distant communities which receive the pollutants. The recent Memorandum of Agreement among Philippine government agencies to dump ship wastes in other parts of the country in order "to significantly reduce pollution of wastes in and around the Manila metropolis" operates in the same way as the tall smokestack approach.[7] The contaminants themselves are not attacked, they are merely shifted somewhere else. Out of sight, out of mind.

What about the prevention approach?

The task of the Administration in bringing this message across is to show that prevention is cost effective. Again, this is towards the interests of transport owners and managers. The prevention approach is very different and much simpler. It involves source changes and improvements which eliminate or reduce all wastes and pollutants without judgments about what is safe, acceptable or allowable. True environmental protection is a consequence of comprehensive and safe operational practices. The quality of the marine environment is maximized when all wastes and pollutants resulting from ship operations are eliminated or reduced.

The pollution prevention strategy aims at improving the quality and efficiency of basic shipboard practices. It utilizes structures already in place or, are supposed to be in place if one were to go by the minimum requirements of international treaties and national laws. Nevertheless, these on board structures can take on new meanings when approached with a different motivation by the performers within the transport hierarchy. Thus, for the owner, sensitivity and concern for the environment is reflected in the policies and guidelines formulated by his management staff for the compliance of his shipboard personnel.

The degree to which the responsible persons in the transport industry are sensitive to the philosophy of pollution prevention can be pragmatically tested when their vessels encounter Port State Control authorities. To date 15 East and West European countries have bound themselves into a collective agreement for the inspection of shipping of all flags which entered the ports of these states to ensure that their standards are up to those prescribed by International Conventions. These international instruments concern those provisions for the promotion and improvement of maritime safety, pollution prevention and seafarers' welfare (e.g. SOLAS 74, MARPOL 73/78, STCW 78, ILO 147), all of which consist the framework within which port state control is carried out. For our purpose, any ship may be detained when the technical aspects of pollution from ships are not fully satisfied. The absence of seafarers' training certificates (for safety, emergency situations, applicable tanker certificates, etc.) shall also consist in the arrest of the vessel. Having the required equipments and certificates in these circumstances become cost effective

when viewed in relation to arrest and detention.

It can be argued that international Conventions are only binding on member states which have ratified them and which by their respective national legislation have given effect to these conventions. Nevertheless, the "no more favorable treatment" clause (NMFT) characteristic of all safety and pollution conventions have enabled a large sector of European maritime nations to enforce standards covering all vessels visiting their ports and virtually preventing the operation of sub-standard ships within these countries adhering to the Memorandum of Understanding. The relevant definition of a sub-standard ship as regard pollution is:

> If a ship cannot proceed to sea without presenting an unreasonable threat of harm to the marine environment, it is also to be considered as sub-standard. The lack of valid certificates as required by the relevant Conventions, will constitute prima facie evidence that a ship may be sub-standard and will form the basis of decision to detain the ship and inspect it.[8]

Hence, Port authorities in these areas have the power to detain any ship (Flag and Foreign State) if the deficiencies should make the ship unseaworthy in any way, or if it becomes a hazard to the crew or a threat to the marine environment. The Agreement therefore effectively establishes a block of maritime nations virtually covering the coast of Europe continuously from Norway southward to the eastern shores of the Mediterranean Sea, which means that every vessel trading in Europe is almost certain to be

considered for inspections, if not at her first port of call, then certainly at a second or subsequent port of call. The costs to the owner in such a case shall constitute the delay and hence lost opportunities for increased trading, bad publicity for prospective clients not to mention the costs of correction of deficiencies which could well have been avoided beforehand. Acquisition of relevant certificates and re-inspection and classification also add to the total costs. These can effectively eat into profits.

III.A.3. The Bottom Line: The Polluter Pays.

Another means to motivate the responsible leaders of the industry to adopt clean technology and shipboard practice is to appraise them on the costs of damage caused by pollution. Nothing can be more graphic when this approach is taken from the economic rather than the legal standpoint by evaluating the cost of clean-up operations themselves and other costs such as direct or indirect economic losses, and converting into money terms the damage to the environment. Through an "economic" (read money) evaluation of the scale of environmental damage caused by oil spills, it can be shown that shipowners, operators, mangers, etc., can make it possible to consider environmental protection more rationally and to re-align the level of their preventive investment in ships and crew to match the effects/costs of oil spills.

Over the last two decades, many courts of specific states have defined and implemented environmental policy and legislation. There is still a definite lag in the

aspects of measuring and compensating damages especially those with regard to measuring the damages to those components of the ecosystem without defined market values and the amenity losses or social costs that result from the effects of pollution, e.g., costs to summer visitors, losses to hoteliers, damages to non-commercial biomass, birds and to health. Nevertheless, the damage components which are measurable and which polluters definitely have to compensate in monetary damage estimates are the clean-up costs, loss of use, diminution in value, lost profits and replacement costs. Clean-up activities represent the largest single category of direct, spill related expenditures. A comprehensive economic damage assessment of any spill necessarily addresses the magnitude of the total clean-up expenditures.

In the United States, the Water Quality Improvement Act of 1970 as amended addresses liability for damages associated with the cleaning up and removing spilled oil as well as provisions for damages to natural resources. The Deepwater Port Act specifically defines damages to include damages for injury to the natural resources of the marine environment. Further, the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) or the Superfund Act specifically provides that damages are not limited to the sums which can be used to restore or replace such resources. Thus, under the statute a polluter may become liable for the cost required to restore fish and to replenish wild life.

On 01 February 1976, the tank barge STC-101 owned by Steuart Transportation Company and time chartered to Allied

Towing Corporation departed Yorktown, Virginia with a cargo of 19,531.26 barrels of no. 6 fuel oil which was bound for the Amoco Terminal at Baltimore, Maryland. Allied which had a contract of affreightment with Amoco for the carriage of this oil, used its tug Falcon for the towing. Due to severe weather while underway, the tank barge STC-101 was battered and sank by the stern at the mouth of the Potomac River. 5,946 barrels escaped into the bay. The following payments were made by Steuart:

Wilfred Sutton		
Property damage ----------	USD	288.00
United States of America		
Clean-up costs ----------		122,300.00
Interest ----------		10,000.00
Amoco		
Lost product ----------		84,200.00
Commonwealth of Virginia		
Clean-up costs ----------		22,078.00
Civil penalties ----------		2,922.00
Wildlife loss ----------		115,000.00
TOTAL	USD	356,788.00

In addition to the amounts which it paid as a result of the Limitation Proceeding, Steuart incurred other costs and expenses as follows:

Barge salvage ----------	USD	113,841.13
Miscellaneous expenses ----------		37,743.26
Barge damage ----------		383,425.76
Legal fees and expense ----------		178,508.75
Oil damage prevention ----------		22,905.78
TOTAL	USD	736,424.68

The total loss assessment to Steuart therefore came to USD 1,093,212.68.[9]

When Amoco Cadiz broke up off the Brittany Coast in France in 1978 and spilled 68 million gallons of oil, the preliminary estimate of the social cost of Amoco Cadiz to the world is FFr 662 to 730 million (USD 158 to 175 million).

Let us take the example of the Santa Barbara oil spill. Union Oil Company and its partners paid out USD 10.3 million in clean-up, well control and oil containment costs. It paid another USD 9.45 million to the State of California and some affected cities and countries in settlement of various claims of damage to public property and related costs. About USD 3.25 million worth of oil was lost because of the well blow-out and an additional USD 15 million in prospective profits were lost by the oil companies which operated the affected leases because of a 4-year moratorium on drilling and production imposed by the U.S. Department of Interior immediately after the oil spill. Damage to other private and public parties amounted to about USD 25 million. Including legal fees, The Santa Barbara oil spill cost the Union Oil Company consortium

nearly USD 60 million. An additional USD 10 - 50 million in environmental damages (based upon a replacement cost theory of losses) could be added to these costs. Thus it is possible to say that the Santa Barbara oil spill "cost" at least USD 70 million.[10]

It should be noted that the above are only the "true" costs or private costs. This amount does not include non-marginal costs such as salaries for state and federal officials who worked on the oil spill as part of their expected responsibilities. Neither does this include costs which are attributable to the oil spill itself like the resulting decision on the moratorium. In short, what the Santa Barbara oil spill "cost" the American society is not the same as what it "cost" Union Oil Company. The costs which might have been recognized would have been far larger had the incident gone to trial. The courts would have had their day slapping Union Oil with the true legally-compensible damages.

The above incidents are mere examples of possibilities (not too remote however) which can strike closer to home in regard to the members of the shipping community. Nothing can be more appalling when profits in the industry are threatened. Any program for behavioral change involves three interrelated aspects: arousing awareness, acquiring knowledge and taking action. In the past, awareness was often a temporary reaction to disaster rather than anticipation of future incidents, be they marginal or catastrophic. Only when Amoco Cadiz or Exxon Valdez struck surface did the world pause in its preoccupation. Today, awareness of environmental issues is now greater than it

has ever been. Self-interest demands that a start be made now.

Accidents to oil tankers, liquid gas vessels or nuclear cargo are inevitable. The large majority however, need not, and should not have happened. The most immediate causes are inadequately maintained ships and "human error". There are indeed the guidelines provided by international and national laws - SOLAS 1974 lays down the rules for ship construction, STCW 1978 stipulates training requirements and standards of competence for ships' officers and crew, regional arrangements for ship inspection such as the 1983 Paris MOU of Port State Control which aims to insure that defects in ships and their operation are made good before the vessel is allowed to go on its way. But these are not enough. There is always that urge to cut costs and corners in today's highly competitive world. This urge inevitably leads to taking risks, to ensure maximum use irrespective of standard equipment or properly trained men.

Due to increasing public criticism and outcry, governments have had to resort to increases in the number and severity of inspections or to insist that all ships are brought up to international standards or taken out of service. These may be welcome sights for spectators outside of the industry and for popularity or election purposes. But they are only as effective as the culprits they apprehend. What is needed otherwise is an overhauling of the wrongly reinforced belief that productive activity is separate from environmental sensitivity. Instead, the message of government is that a partnership is now necessary because we are all in the same boat. We cannot

expect to ameliorate environmental degradation unless those who are high up in the causation of operational spills and accidents take it upon themselves to voluntarily adopt pollution prevention within the fiber of their respective organizations. The pendulum of disasters and regulatory reaction thereafter must somehow present another scenario of mutual co-operation and trust. Regulations and the attendant fines and penalties are simply not the way to operate. They are not cost effective to the companies and certainly they do not approximate the damage to social amenities. They can only reduce damage in money terms without really restoring the pristine state that natural resources previously occupied. In the long run, restoration costs become only punitive but certainly not restorative.

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Chapter IV: The PHILMEPA Organizational Framework

The second step in the formation of a strategy for environment protection is the coalition of like-minded individuals into an institutional framework. For our purpose, this structure could be named the Philippine Environment Protection Association (PHILMEPA). The Association will be the forum for the crystallization of all the mutually agreed activities of the members. It should provide the structure within which the members of the industry can examine their activities thus far, the environmental problems they have generated or have experienced, and collectively plan the likely pattern of their future growth and the policies to be developed if their growth is to have positive impacts on the environment and the other agencies (public and private) tasked with its protection. This should be the forum where responsible people who rate very high in the causation of marine environment degradation can examine the problem of pollution of the sea, identify and advise on economic and technical problems related to pollution prevention and contribute towards pollution elimination or minimization.

IV.A. The Time To Organize is NOW.

The rapid advances in technology and the demands of industry have resulted in steady increases in the drilling of and the transportation of oil. The shipping community which is responsible for the transport of products by sea

has been pinpointed by many sectors as a threat. Even when fewer and smaller ships carried less dangerous cargo, they posed a serious threat to the marine environment, and many States felt the need to establish at least minimum international standards for environmental protection and preservation. As the risk escalated (more and larger ships carrying greater amounts of hazardous cargo over long distances), the perception of hazard has been appreciated and the will to take effective action was substantially reinforced. The focus of attention has been largely on oil which although not necessarily the most dangerous substance carried by sea, is the most significant in tonnage terms. In previous chapters reference have been made to dramatic and catastrophic accidents. The development of a variety of international Conventions in the field of marine pollution has very conspicuously been accelerated, facilitated or even initiated as a direct result of other comparably serious pollution incidents which have threatened to pose hazards or cause major damage to the environment, health and the ecosystems.[1]

Much of the Conventions (and subsequent enactments in national laws) which were developed in response to marine pollution problems can be characterized as either preventive or remedial in their thrusts. The remedial orientations were based on traditional concepts of fault, negligence or criminal culpability. There are also strict liability or no-fault provisions entailing victim entitlement or compensation through the establishment of a fund for the purpose. The preventive thrusts consist in the imposition of regulatory controls, research or review requirements, higher technical standards, operational

conditions, professional qualification and certification, licensing techniques, guarantees of accountability and rejuvenated management techniques. Each of these two areas of marine pollution provisions (read impositions) have inherent limitations and raise difficult problems in enforcement and compliance.

Developing countries (like the Philippines) which are heavily dependent upon shipping benefits can be influenced by conflicting motivations as far as enforcement of and compliance with laws. Our commonality with other developing countries is our customary purchase of second-hand vessels (due to capital and foreign exchange scarcity) and thus the ambivalence to increased stringency in vessel construction and design standards or required retrofitting. Nevertheless, the consequences of a major spillage can be extremely serious for us, if only because there are fewer resources available for dealing with them. The result is a complex process of reconciliation and balancing of interests. Developing nations are understandably reluctant to accept international standards and other kinds of obligations which will increase the cost, or retard the process of economic development.[2] This hesitation is dominant as well among the ranks of the shipping community.

Overall, we might be excused for judging the development of vessel technology as slow and uneventful for thousands of years up to the Second World War, but the drastic innovations of the last three decades have spawned new possibilities for the prospective uses of the sea (food production, transport and communication, military security, weather forecasting and modification, scientific

investigation, storage and disposal, power generation, recreation and therapy and even residence). These uses of the sea give rise to profound anxieties when viewed against the evolution of shipping after World War II, e.g., increased number and sizes, even greater payload, increased frequency of calls, traffic concentration, etc.. Can the sea withstand this onslaught without prejudice to the above uses? Are sufficient environmental safeguards being taken in the course of these new uses? Above all, do we know enough to act responsively as the guardians of the ocean environment?

While great progress has been made in the overall development of international law, Conventions and in the efforts of specific governments to incorporate these international agreements into their national legislation, work in these areas is still far from over. Their effectiveness, to a large degree, depends upon the determination of the officials to implement and enforce them. Such orientation shall receive the appropriate sympathy and compliance only within the framework of a partnership and co-operation between regulators/legislators and the subjects of such regulations - those persons directly involved in shipping/transport as well as those whose interests lie in the furtherance of shipping.[3]

This type of partnership is, above all, a level of treatment, of intermediate action between the policymakers and the industry, at which co-operative action can be taken by national as well as private entities to deal effectively with such problems as the protection and conservation of the marine environment. The possibility of such co-

operative action depends chiefly upon the perception of these two sectors that they do, in fact, have a shared or common interest in the marine environment by reason of national mandate or by commercial operation. The ideal level of rapport is that which is characterized by a combination of interdependence , mutual benefit, joint responsibility and most importantly, the fundamental respect for each other's role in the industry.[4] At this time when there is a growing realization of the global affinity of man and the environment, it would be perverse if the concept of common interest between government and the private sector cannot be afforded institutional significance in the specific area of the maritime industry.

The government as an organization does not pretend to act in a vacuum. Because it needs to interact with a specific institution, there must be in existence a corporate unit where the co-operative aspects of dialogue, communication and inter-action become possibilities. It is at this point where the activities of government, in the first level of awareness and motivation, takes a corporal nature. This is the stage where "environment", "ecology", "quality of life", etc., achieve structural prominence in the form of a coalition of like-minded individuals in the industry - the Philippine Marine environment Protection Association. The goals of the first level - motivation, environmental consciousness and sensitivity - must necessarily lead to this institutional organization. On the other hand, if the distinct individuals should hope to create the necessary impact on government, on interest groups or the country in general, a measurable amount of success can only be expected if such individuals initiate

their activities within the context of an association.

From hereon, proposed structural organization for PHILMEPA will be outlined. This is not intended to be a monolithic model but a carefully contrived pattern for an environment protection association which this writer purports to be appropriate under present circumstances in the Philippine maritime sector.

IV.B. The PHILMEPA Objective.

The objective of PHILMEPA is to motivate and encourage the Philippine maritime industries, especially those involved in shipping towards a voluntary commitment to protect the marine environment from all forms of pollution arising from ship-generated sources.[5]

In the pursuit of this objective, the Association shall develop the necessary legal means mindful of the resources and assets that can be made available from the participating individuals, agencies - public and private, which can serve to enhance the environmental awareness of the maritime industries through information, training, research and example.

1) Very high on the agenda of the Association is the inculcation of deep feelings for the environment as regards the members. There must be a continuous flow of information on safe and clean operations. New scientific data on environmental preservation and protection must be passed on to the members.

2) The pre-condition of entry into the Association is the acceptance of and compliance with current and future national and international laws subscribed to by the Republic of the Philippines. National and international standards shall form the minimum parameters for the individual members' level of commitment to the protection of the marine environment;

3) Co-operation with the competent government authorities; assistance in the conduct of their duties; advice and recommendations as regards the acceptance of new Conventions and their local adaptation and implementation; recommendations on the updating of obsolete environmental laws; reconciliation of technical differences between the industry and regulatory bodies - all of these form the basis of public action by the Association;

4) The Association should also complement the government and other non-governmental bodies in the efforts of collecting scientific data on the causes and effects of marine pollution as well as the viable approaches towards its elimination or minimization;

5) There must also be the Association's participation in seminars, conferences, discussions and other fora where marine pollution is of the main concern.

6) The Association should also contribute by every lawful means in the recognition and encouragement of individuals or groups who show or have exhibited exemplary achievements in the area of marine environment protection and pollution prevention.

7) The Association should continuously encourage the entry of other members of the maritime sector into the organization.

IV.C. The Members Of PHILMEPA.[6]

There are three levels of memberships proposed depending upon the degree of responsibility, participation and voting rights within the Association. Of primary requisite for all the types of memberships, however, is that the member or applicant for membership must be a citizen of the Republic of the Philippines or at the least, must be representing Philippine interests; in the case of corporate entities, the business must be registered and operating in the country; and finally, the applicant/member must have interest(s) dependent upon or related to the maritime field or classified as belonging to one of the maritime industries. For corporate entities to be admitted as members, their Articles of Incorporation must include provisions relating to the protection and/or enhancement of the marine environment.

- The individual members shall include:

  Shipowners, operators, charterers, seafarers (officers and crew), manning agents, ship agents, chandlers, brokers, freight forwarders, scientists, academicians, salvors, shipibuilders/repairers and the like.

- The corporate members who shall be represented by fully authorized personnel shall include:

  Seamen's federations and unions, ship officers' associations, oil importers/refineries, pilots' associations, yacht clubs, resort operators' associations, government regulatory and policy-making agencies, etc.

IV.C.1. The Sustaining Members.

Those who shall be listed under the category of sustaining members should be the responsible leaders of the industry. Such leaders must exercise a high level of influence over the conduct of general shipboard practice. Foremost amongst them would be the shipowners, managers, operators and charterers. From among this group, there is a perceived expectation that, should they be converted to the protection of the marine environment, the training and motivation of their personnel could become part and parcel of their respective corporate strategy. Securing their commitment could lead to the adoption of clean technology on board vessels. They must be in positions where they create the conditions whereby environment friendly operations in terms of properly trained manpower and the complementary structural and equipment requirements are costed in the overall company budget. This group should be composed of the decision makers in the industry.

Also in this group should belong the heads of manning and crewing agencies. As of the last count (end of 1990), there were 363 licensed manning agencies in the country. As

mentioned before, ship officers and crew rank very high in the potential causation of operational and accidental pollution. Manning agents maintain their own pool of manpower reserves such that they can readily fill in job orders from foreign principals. The mobilization fee collected from their principals cover, among other things, the agency fee, return tickets for the seafarers, documentation and administrative expenses, safety clothing and work tools, medical examination and testing, and, of course, training fees for the acquisition of internationally required certificates. Manning agents also exercise a high level of influence over the quality of their manpower pool. They therefore should realize their portion of responsibility over the off and on-board disposition of the seafarers they send overseas. It is well within the interests of the manning agents to ensure that properly trained and motivated seafarers make up their own rosters. Their commitment to marine environment protection should do well in reinforcing the competitiveness of overseas seafarers. Not to mention the marketing edge it can afford the manning agents as far as the quality and training standards required by their foreign principals.

The other target personalities who should be included in this membership type are the heads of seamen's federations and unions in the country. They too can exercise some influence over the training and motivation of our seafarers.

Sustaining members therefore would have the right to participate at General Assembly meetings and to vote on issues presented for ratification and adoption. As far as

dues are concerned, vessel owners and operators should be assessed on a per vessel basis (e.g., HELMEPA has assessed every vessel owned or operated an annual due of USD 700). Other membership dues should be determined by the Board of Directors.

IV.C.2. The Associate Members.

The Associate Membership should be composed of the seafarers from any rank and capacity. Since this group represents the front line of shipboard operations, they must necessarily become the ultimate targets for the motivation and training tasks of the Association. Mindful of the human factor which figures in most operational and accidental pollution incidents, the expected behavioral change towards safe and clean operations bears most significantly on this group. The degree to which corporate shipping and crewing policies have taken on marine environment protection objectives shall have their clearest manifestation in the attitudes of shipboard personnel.

The yardstick which can well measure the degree of commitment and conviction of owners and manning agents to marine environment protection shall be the costs that they are willing to invest in the enhancement of the environmental consciousness of their personnel. They must be able to provide the time and the occasion (e.g., in-between jobs) whereby their shipboard personnel are given the training and sensitization sessions provided by the Association.

Organizationally, the Associate members should have the right to attend General Assembly meetings but they do not exercise the right to vote. Their welfare and interest are represented in the Board of Directors by the leaders of the seamen's federations and unions.

The other Associate Members are the ship agents, ship and insurance brokers, freight forwarders, yacht clubs, etc. and other persons providing support services to maritime transport. Their contributions to the Association are purely volutary.

IV.C.3. HONORARY MEMBERS:

Honorary members are those individuals or corporate entities whose interests have links to the preservation, conservation and protection of the marine environment either by virtue of their corporate policies, their individual commitment or by public mandate.

This shall compose the support group for the Association. The government should be represented here by the various agencies whose tasks consist in the regulation and/or enforcement of national pollution and safety objectives. Oil importing or refining companies have their role to play in the protection of the marine environment. Hence, it is incumbent upon them to become members and extend their support to the Association.

The following topics hereon, will outline the proposed internal adninistrative structure of the Association and the pertinent duties and functions.

IV.D. THE GENERAL ASSEMBLY:[7]

The General Assembly would act as the highest governing body of the Association. It should be composed of all the members as stated previously. It should meet at least once a year which meeting should be called by the Chairman of the Board after the necessary publication and information procedures are satisfied. A quorum is met when 50% of all Sustaining Members are present.

The General Assembly should elect the Board of Directors and two Auditors, approve the Financial Statements of the association, decide on issues such as withdrawal of membership, increase or decrease of dues, projects of the Association, amendments to the Articles of the Association, etc..

IV.E. THE BOARD OF DIRECTORS:[8]

The Board of Directors should be elected from the ranks of the sustaining members in a General Assembly meeting. The Sustaining Members should initially elect eight (8) Members of the Board either by majority vote and by secret ballot. Their term of office shall be for two years subject to re-election by the General Assembly.

The Members of the Board should elect among themselves the Chairman of the Board who shall be the presiding officer for Board as well as General Assembly meetings. The Members of the Board should also appoint from the ranks of the General Assembly three (3) additional Members of the Board for the purpose of broadening the representation of the maritime industries within the Board. Heads of

distinct organizations may be apponited to represent their respective constituencies in the Board, e.g., seamen's federations, ship officers' associations, etc.. The Board shall also elect among themselves the Vice-Chairman, the Secretary-General, the Special Secretary and the Treasurer.

The Board should meet at least once every three months or, when the Chairman deems it necessary, a special meeting should be convened by him, or, subject to a written request by at least three Board Members. They can meet lawfully in quorum when at least six members are present, four of whom are sustaining members. A simple majority of votes shall constitute approval of a motion.

IV.E.1. JURISDICTION OF THE BOARD OF DIRECTORS.[9]

1) The Board of Directors should decide on every matter related to the management of the Association or the administration of its assets, except if the Articles of the Association specify otherwise.

2) The Chairman should represent the Association before any public or judicial authority or any other body. He shall co-sign every receipt or collection ofpayment with the Treasurer.

3) The Director General is the Administrative Officer of the Secretariat. He is directly responsible to Board in as far as the implementation of the policies and projects of the Association. As the head of the Secretariat, he supervises the

activities of the Training, Public Affairs and the Finance Committees.

4) The Treasurer should take charge of the collections and payments signing them jointly with the Chairman. He is responsible for the submission of the annual budget as well as the report on annual revenue and expenditures for the ratification of the General Assembly.

5) The Special Secretary should attend to the minutes of every meeting and to prepare the same minutes for circulation to the Board Members and, when applicable for dissemination to all members concerned. He is responsible for all correspondence to and from Association in co-ordination with the Chairman. He is the ex officio press relations officer of the Association.

IV.F. THE SECRETARIAT:[10]

The Secretariat should be under the direct supervision of the Director General who should oversee its day-to-day operations. The Secretariat is composed of three commitees: Training, Public Affairs and Finance.

The Training Commitee activities consist in the conduct, co-ordination and implementation of the information and motivation objectives of the Association. This committee would be in charge of the

production and output of publications and newsletters for the information and awareness not only of the members but also the general public. It should keep a data bank of relevant information on shipping, e.g., casualty reports, spillage incidents, special projects update, etc..

Most importantly, it should develop training modules for the different levels/positions of personnel in the maritime industries. It should co-ordinate with and enlist the support of the members of the Association in the conduct of its training activities.

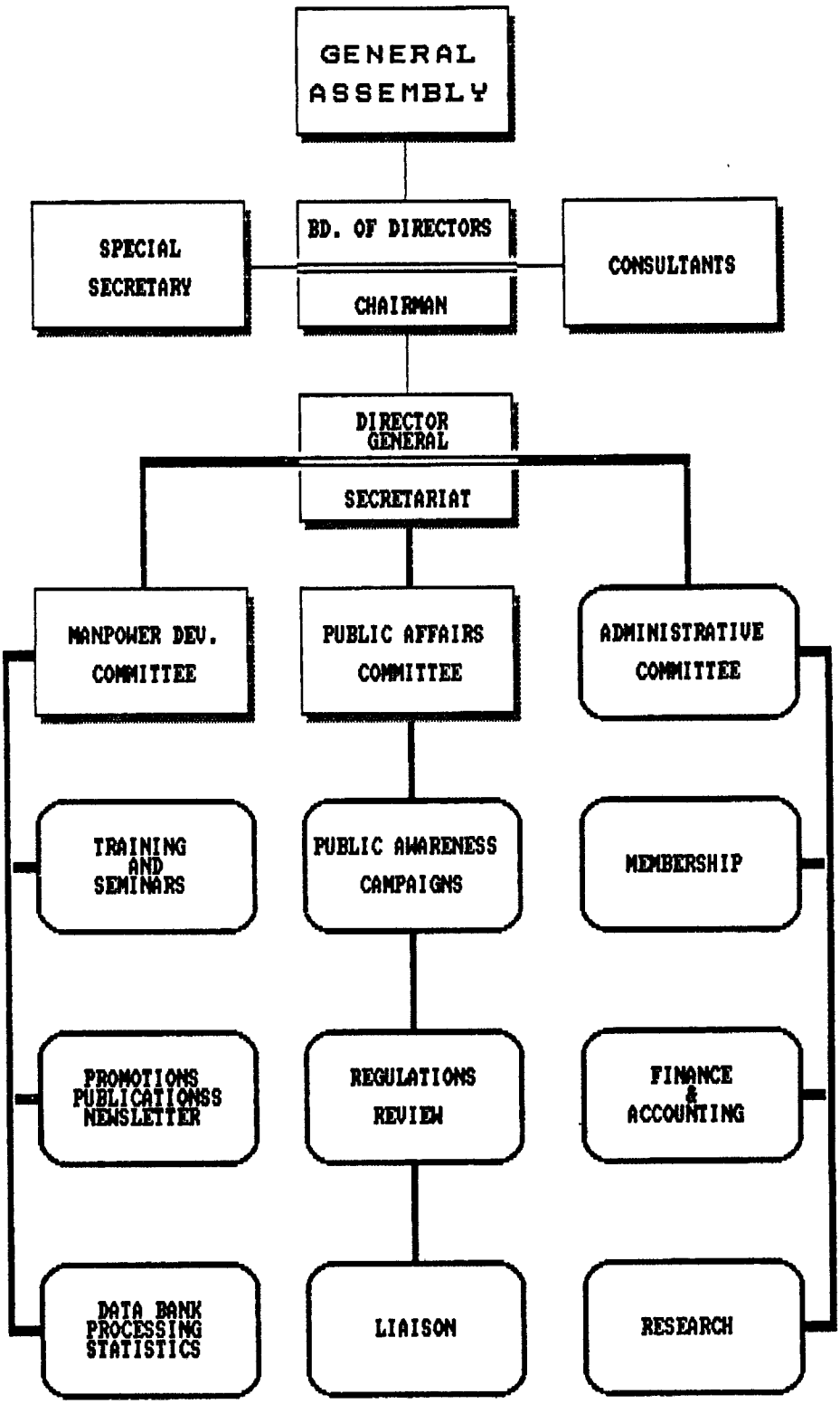
The Public Affairs Commitee would be in charge of the public awareness campaigns of the Association. The target of its activities should be those other than the members of the Association, e.g., other interest groups, school organizations, religious groups, consumers, etc.. It would also be responsible for the recruitment into the Association of those other members of the maritime industry.

The Finance Commitee would be responsible for the maintenance of the accounts of the Secretariat as regards training and public awareness campaigns. It should maintain the budget of the Secretariat in co-ordination with the Treasurer. It must keep track of all membership matters especially those regarding new entrants, training certificates, identity cards, dues and collection notices, etc..

It must be reiterated that this is not meant to be a

monolithic model. However, all the necessary elements needed for the formation of a viable structure for addressing a marine environment protection strategy in the context of a coalition of concerned leaders in the industry are all present.

PHILMEPA Organizational Chart
(Recommended Scheme)



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Chapter V: Target Avenues for PHILMEPA in Influencing the Industry and Government Towards a Marine Environment Protection Strategy.

This chapter shall discuss the third step in the formation of a marine pollution prevention strategy in the context of the public and private sector partnership in the maritime sector, specifically those activities which the Association and the government can undertake to influence public behavior.

Time was when the significant proportion of our population looked at marine pollution as a problem of wealthy nations; when concern for the seas and waters were the preoccupation of poets, music lovers and bird watchers. The recent decades have slowly but surely eroded these misconceptions. A global perceptual change is gaining ground. New systems of information and dissemination especially in the television and print media have helped masses of peoples from all countries in the appreciation of the environment and the countless threats, potential and actual, that human activity has placed on it.[1] Public criticism and outcry have moved governments and subsequently, inter-governmental fora into developing comprehensive strategies for the conservation and protection of he environment.

While the theme of ocean conservation immediately raises the aspects of conservation of the marine species, their habitats and related ecosystems, this chapter concentrates on the potential manifestations of pollution

in relation to marine transport and the persons and agencies responsible for its conduct. There is, of course, a cognate relationship between the two themes, but the distinction is a real one. On the one hand, the conservation of the marine species and ecosystems obviously depends on the preservation of life support systems in the sea. In that respect, the control of marine pollution is indeed a pre-requisite to species and ecosystem preservation. By the same token however, marine pollution constitutes a threat to human interests since it may affect resources of significant importance to man, e.g., public health, loss of amenities, profits, relaxation and safety, etc.. The range of interests for the shipping community which are involved might extend from relatively minor, normally threatening harms at one extreme, to potentially catastrophic and genuinely frightening hazards at the other.

The most fundamental disposition in the formation of a marine environment protection strategy in the shipping industry is the classification of the sources of pollution particular to the industry. The two main "sources" referring to the types of activity which causes the harm or hazard to the environment are:

1) Navigation - ship-generated or vessel-source pollution from operational causes or by accidents such as collision, grounding, equipment failure, etc..

2) The deposit of wastes at sea - pollution caused by dumping.[2]

With these two themes in mind therefore, the positive areas where PHILMEPA could hope to attain a marine environment protection strategy for the industry would be outlined. In the course of this treatment, relevant activities in the industry as well as the government's role in the facilitation of these activities will be underlined.

V.A. The Motivation/Training Activities

Any sector of the industry, including the maritime sector, depends for its safety and efficiency on the skills and motivation of its work force. Training is a pre-requisite for the development of these skills and this applies for all levels of staff from policy makers and senior managers to the lowest grades.

Various studies have identified the serious shortage of qualified people in the maritime industries of developing countries. A study of maritime management training needs carried out for UNCTAD in 1978, for example, estimated that the requirements of the developing countries for the management grades alone were as follows: [3]

Management Sector	No. Requiring Training
Ports	40,000
Shipping	25,000
Government Administrations	7,000
Shipping Organizations	6,000

Only about 10% of such managers had received any formal training for the jobs they were called upon to do. All the tragedies enumerated in previous chapters emphasize the need to refocus on the human element embodied in sound management and operating practices. Since the persons involved in shipping and transport rate very high in the chain of causation of these disasters, the primary responsibility for safety and clean operations ultimately shifts back to the shipowner, the operating company, the manning agents who supplied the personnel, the ship officers and crew. In order for a marine environment strategy to be effective therefore, it must start at the corporate level as a line management responsibility.[4] Environmental considerations must be firmly established and backed up with adequate resources for them to work. Vessel safety can be increased and marine pollution decreased by employing better operating practices. Operating efficiency and profitability can be escalated if the responsible leaders provide for operating procedures emanating from a clear implementation of an "environment friendly" corporate philosophy.

Turning to the lower levels of personnel, it is a fact that at any given year, there are over 110,000 Filipino officers and crew serving on board international vessels. More than twice this number of seafarers are waiting in the wings for employment on board.[5] Their number is growing as our maritime schools graduate 8000 to 10,000 more every year. Now clearly, when the Association embarks on its training activity for environmental consciousness and safety operational procedures, it shall have its hands full.

Because of the large number of people involved, it is clear that facilities and resources must be available to meet the training requirements. This is therefore an avenue where the government can contribute some resources in the context of co-operation and collaboration with the Association.

The Manpower Development Office (MDO) of the Maritime Industry Authority (MARINA) as mandated by P.D. 474 dated 01 June 1974 has the following general functions:[6]

1. Develops and recommends a system of maintaining and developing reservoir of trained manpower to meet the present and future needs of the maritime industry;

2. Evaluates in collaboration with the Department of Education, Culture and Sports (DECS) and the Maritime Training Council (MTC) the capability of maritime schools and training centers;

3. Inspects and evaluates periodically in collaboration with DECS and MTC the standards, facilities and performance of the maritime educational and training program of government and private schools and enterprises and recommends such changes in the curriculum as may be necessary;

4. Conducts and arranges the holding of training programs to upgrade shipping and shipyard skills;

5. Recommends incentives for education and training in shipbuilding fields, especially those which are not attractive to students, including scholarships and fellowships in the Philippines or abroad, which the Authority may sponsor or arrange;

6. Conducts and arranges the implementation of apprenticeship programs;

7. Administers a continuing program for providing technical advice and assistance to the maritime educational and training institutions and programs in the Philippines;

8. Develops the capability of shipping and shipbuilding managers thru education and training;

9. Issues Endorsement Certificates and other documents pursuant to the STCW 1978 Convention;

The Association, through a Memorandum of Agreement may enlist the support of MDO in areas such as:

1) Drafting marine environment programs designed for shipping management as well as seafaring officers and crew;

2) Enlisting and co-ordinating the contribution of other government agencies towards environmental training and motivation, e.g., the Philippine Coast Guard-safety and environment response procedures, Department of Education - instructors from the

academe, National Pollution Control Commission and National Institute of Science and Technology - scientific and statistical inputs, etc.;

3) Through official channels, MDO can also explore possibilities of bringing in international advice and expertise from private as well as inter-governmental organizations in the field of marine environment protection and pollution prevention.

4) Enlisting the support and co-operation of the private sector whose corporate interests are directly or indirectly aligned with the protection of the environment, e.g., transport users, oil importing/refining companies, freight forwarders, ship agents, etc.

By virtue of its public mandate, MDO has a vital role to play in support of the PHILMEPA as regards to raising the conscoiusness levels of all members of the maritime sector. It has a training component already in place in the agency. There are four WMU graduates whose expertise can be tapped in matters of existing internationally accepted standards for safe operational activity on board ships. It is also within the capability of the agency to enlist the support of other government agencies by way additional inputs as pollution control, abatement and mitigation (Philippine Coast Guard), navigational safety (State maritime academies), scientific data on pollution (National Pollution Control Council), etc.

Everything considered, developing a conscientious maritime industry makes for facility in the development of accepted regulatory policies, compliance thereto and their enforcement. On the international level, officers and crew who have adopted safe and clean operational techniques shall a defintive advantage. Furthermore in the community of maritime nations, the country shall disprove the all too common concept of equating inefficiency with cheap labor.

V.B. Compliance With National and International Regulations on the Prevention and Control of Marine Pollution From Ships.

Vessel-source pollution is the first form of marine pollution to arouse the attention of the world community, and therefore the first to receive concerted political and legal treatment at the international level. Oil is the most significant pollutant not only because of its visual (hence its substantial "psychological impact) nature which no doubt plays a major role in the promotion of institutional developments, but also because of the quantity which is transported at sea (see tables below). In addition, almost all ships carry bunker fuel oils. As more and larger ships carry greater amounts of hazardous cargo, the potential consequences of accidents have escalated proportionally. The most noted oil pollution incidents were the Torrey Canyon (1967), Argo Merchant (1976), Amoco Cadiz (1978), Exxon Valdez (1989) and most recently, the Haven (1991).

Oil Movement at Sea (in million tonnes)

	1971	1980	1989
Crude Oil	1,100	1,319	1,097
Product Oil	255	269	381
Total	1,355	1,588	1,478

Source: British Petrloeum Statistics

World's Merchant Fleet (DWT)

	1971	1980	1989
Number of merchant ships	55,014	73,832	76,100
Number of tankers	6,292	7,112	6,383
Total (DWT)	169,354,743	339,801,719	247,556,000

Source: Lloyd's Register

Nor do accidents, although dramatic, constitute the only threat to the marine environment from vessels: operational discharges have also accumulated to cause significant pollution. The tanks in which oil is transported are usually washed while a tanker is returning to its loading port, and some of the tanks are normally filled with water as ballast to make the ship low enough in the water to maximize propulsion and maneuverability. In the past, the resulting mixtures of oil and water were

pumped directly into the sea before a new cargo was taken on.

Several available strategies have long been recognized as practicable in controlling these and other discharge problems. Most notable are the "load on top" (LOT) technique (whereby tank washings and ballast are not discharged, but are rather allowed to settle out), segregated ballast tanks (SBT), and double bottoms or hulls. A number of States have, however, been somewhat slow about requiring such measures for new ships, and they have been even more reluctant to mandate retrofiting of second-hand tankers.[7]

The Government has the most direct interests in protecting its coastal resources and related environment. It must therefore feel the need to establish mutually agreed guidelines for environmental protection and preservation. In themselves, these guidelines for regulating the whole spectrum of shipping present viable procedures for the prevention of ship-generated pollution.

Since these regulations are closely linked to the conduct of trade, especially international trading, it is in the interest of the Association to encourage compliance among its members to the relevant guidelines. The public and the private sector need not look long and hard for worthy regulations which directly address the problem of marine environment degradation. There are in fact existing international guidelines borne out of the experience and expertise of inter-governmental co-operation, namely the International Conventions.

As an Association dedicated to the protection and preservation of the marine environment, PHILMEPA should display its consistency with the aforementioned objective by its collective compliance with established international Conventions. As mentioned before, it is in the interest of the shipowners and seafarers to adopt these guidelines. The particular Conventions which PHILMEPA must take serious note of are those which have direct bearing on the prevention of ship generated pollution. They are specifically enumerated below for ready reference.

1. The prevention of accidental pollution by the regulation of the construction, equipment and operation of ships and training and qualification of officers and crew.

   - International Convention for the Safety of Life at Sea, 1974 (SOLAS);

   - International Convention on Load Lines, 1966 (LL);

   - Convention on International Regulations for Preventing Collisions at Sea, 1972 (COLREG);

   - International Convention on Standards of Training, Certification and Watchkeeping, 1978 (STCW).

2. Prevention of operational pollution from tankers and other ships, by prohibiting or limiting discharges of oil and other polluting substances:

   - International Convention for the Prevention of Pollution from ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78);

   - Convention on the Prevention of Marine Pollution by Dumping of wastes and Other Matter, 1972 (LDC);

3. Reduction of releases of oil and other polluting substances in the case of accidents to ships, by introducing certain measures to design, construction and equipment of ships such as the limitation of the size of cargo tanks, double hulls, damage stability, etc..

   - MARPOL 73/78.

4. Mitigation, of the pollution following maritime accidents, by defining the right of coastal States to intervene, and by promoting national, regional and global arrangements for combatting pollution.

   - International Convention Relating to Intervention in the High Seas in Cases of Oil Pollution Casualties, 1969 (INTERVENTION);

- Protocol Relating to Intervention on the High Seas in Cases of Pollution by Substances Other Than Oil, 1973 (INTERVENTION PROT);

- International Convention on Oil Pollution Preparedness, Response and Co-operation, 1990 (OPRC).

5. Compensation to the victims of pollution, by establishing liability and compensation schemes.

- International Convention on Civil Liability for Oil Pollution Damage, 1969 (CLC);

- Protocol of 1984 to Amend the International Convention on Civil Liability for Oil Pollution Damage, 1969 (CLC PROT);

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V.C. Public Action.

By now it must be evident that the number of marine environmental issues and problems generated by human activity is immense. Many of these problems can be directly

attributed to ship generated pollution. Land generated waste however account for the much larger source of inputs into the marine environment. Therefore, it should be also the task of PHILMEPA to enlist public support towards the protection of the marine environment from pollutants emanating from land sources mainly due to dumping. The initial activity involved in addressing this issue is the creation of a public awareness that a problem exists. For example, the desire of the public for clean waters and beaches can only be realized if they take the responsibility for its cleanliness. The policy makers in government will be particularly receptive to cases brought to them if they believe that there are social or political benefits to be gained from acting, or costs/damages to be incurred from not acting. From both the above examples, the primary goal of PHILMEPA should be public information and education.

Industrial wastes are often flushed directly into the nation's waterways. Rivers, lakes, and coastal waters are literally used as toilets for factory waste. Some of the waste eventually washes ashore, some is carried thousands of kilometers by tidal currents and some sinks to the ocean bottom. At least half of all water pollution comes from wastes that wash off public streets, farm fields and building and mining sites and run directly into streams and rivers, headed for the sea. More and more people nowadays live within an hour of a coastline. Homes, roads and storefronts snake down the coastline. We widely advertise shoreline tourist industries. One can imagine the amount of sewage and garbage generated from these establishments. It does not need much imagination to determine where the

nearest and most convenient disposal area is. Plastic pollution is on of the most devastating man-made threat facing the ocean. It is a great threat to marine mammals and birds. Because it is often transparent, it nets or entwines animals that cannot see it. It floats on the waves and can be easily mistaken for food. Animals surface stuck in six-pack holders or wash up on beaches, their stomachs swelled by the plastic bags they have swallowed.

Heightening public information on environmental awareness is another avenue whereby PHILMEPA can escalate its campaign for cleaner seas. Some specific activities are outlined below:

- The establishment of exhibit areas/showrooms depicting the human role in marine environmental degradation and the possible steps towards reversing the situation. Vivid and colorful films and posters shall aptly serve the purpose;

- The production of print literature, stickers, decals, etc., with environment friendly slogans;

- The information campaigns can be brought directly to schools whereby sensitivity sessions can be held with schoolchildren;

- Local beaches or parks clean-up can be organized with local governments involving youth groups, religious/civic groups, interest groups, etc.;

- Participation in or sponsorship of activities related to environmental enhancement, e.g., seminars, symposia, fund raising campaigns, etc..

- Consider forming watchdog systems in specific communities to monitor coastal areas for polluters. Taking note on the debris on beaches will help identify the source of the waste once the total accumulation is taken into account. In relation to this, the Association must familiarize itself with national and local pollution laws.

- Encourage lawmakers towards the promotion of pollution control requirements on all near-shore or coastal industries that currently pollute the coasts;

- Encourage the use of phosphate-free, low-phosphate or biodegradable dishwashing liquids, laundry detergents and shampoo. Algae growth is stimulated by phosphate-rich water, causing fish and marine life to suffocate from lack of oxygen.

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Chapter VI: Recommendations and Conclusion.

Literally any type of organization can be used to achieve pollution prevention. People need to think of advocating the practice of pollution prevention in the groups to which they now belong, including religious groups, labor organizations, civic and business associations, professional societies, parent teacher associations, sport groups, etc.. Pollution prevention is a necessity for individual and collective well-being and survival. There has been too much denial of monumental problems and too much lethargy in solving them because of puported threats to the economy or the standard of living. Pollution generation is a shortsighted, immoral and illusory path to economic prosperity. The sooner the transition to pollution prevention and environmental protection occurs, the sooner we will achieve economic prosperity that is in harmony with the natural world and the best known values.[1] The governments and industries of any nation have an opportunity and a responsibility as well to their constituents, to an environmental strategy by example, by co-operation and the provision of assistance.

The organization of the PHILMEPA is one opportunity for the government to orient the maritime industries, especially the shipping industry towards environmental protection because this particular sector ranks high in the chain of causation of marine pollution.

Let government take the initiative in this case. Thus far the international regulations, the inter-governmental treaties, the Conventions mentioned before have all been borne out of unpleasant and disastrous incidents. They were all reactions after the event of catastrophes. Must the nation likewise wait for a disaster of earth-shaking magnitude before serious steps towards a pollution strategy are taken?

In the following pages, an attempt is made to underline recommended actions for the government in support of the global movement towards the protection of the marine environment specifically from threats arising from shipping operations. This thrust of the government should in no way negate the support it should be extending to the PHILMEPA in its quest for the integrity of shipboard performance.

1. It is recommended that the government through the MARINA show why and how environment protection should be the centerpiece of an environmental strategy which addresses the environmental problems particular to the maritime industries especially ship-generated, or human-caused pollution. This the government can achieve by acting as the catalyst in setting the atmosphere where the responsible leaders of the maritime sector (both public and private) can come together and address the issues on marine pollution prevention.

MARINA is in a position to set the mechanisms for such an occasion because of its organizational influence on the various members of the maritime sector. Keeping in mind the raising of environmental consciousness, MARINA's critical

role is that of steering the leaders towards the three stages of the marine environment pollution prevention strategy :

a). Environmental consciousness and sensitivity;

b). Organizational unity; and

c). Public/Political action.

2. A reasonable level of success in the motivation and consciousness stage can be achieved by the government if it can confidently bring about a masterful assessment of the current and future threats to the marine environment; the analysis of the effects of ship-generated pollution; and the appropriate proposals for immediate action. Obviously, there must exist a deep comprehension and appreciation for the state of the marine environment which necessarily includes the following:

a). Human activities affecting the sea:

- the population and industrial movements towards the coastal areas;

- discharge levels of waste waters;

- disposal mechanisms (if any) of industrial waters, mine tailings, sewage sludge, plastics, litter, etc.;

- sea transport of hazardous substances and the threatened (sensitive) areas and species;

- extreme events both natural and accidental and the degree of presently available response capabilities.

b). Levels and distribution of marine contaminants:

- transport discharges and spillages into the sea;

- river and run-off inputs into the sea;

- contaminants of general concern and their effects, e.g., synthetic organic compounds, petroleum residues, heavy metals, etc.;

- concentration of the above substances in water, sediments and organisms.

c). Biological effects:

- effects to human health;

- biological significance of environmental concentrations of trace elements and hydrocarbons;

- eutrophication;

- ecological effects;

- necessity of revival of damaged ecosystems;

- recording and control of biological/scientific data.

d). Effects of pollution on climate change:

- effects of carbon dioxide and other greenhouse gases on the atmosphere;

- causes and effects of changes in sea-surface temperature;

- causes and effects of sea-level rise;

- Environmental impacts of all the above.

e). Prevention and control of marine pollution:

- prevention and control strategies;

- practical aspects of pollution prevention and reduction;

- economics of pollution prevention;

- pros and cons to acceptance and national implementation of international controls of marine pollution, i.e., Conventions, laws, liability, regional agreements, etc.;

f). Forward planning/Foresight capability:

- need for concerted action;

- establishment/organization of PHILMEPA.

The various items outlined in the previous pages constitute the inputs necessary for a comprehensive assessment of the Philippine marine environment. Completion of that study will bear out what national resources are at stake; the threats that are liable to endanger them; what assets, resources and capabilities must be available to protect them; and the necessary activities - laws, structural changes, inter-department liaisons, co-operative alliances (government and industry), etc.. - which must be undertaken to cover the threats. It behoves the government therefore to adopt the stance of mobilizing the different expertise, both scientific and technical, public and private, it can muster in order to arrive at the present state of the Philippine environment. Having done this, forward planning and strategies shall definitely attain more chances of succeeding.

3. Members of the Association of Southeast Asian Nations (ASEAN) - the Governments of Brunei Darussalam, Indonesia, Malaysia, the Republic of Singapore, the Republic of the Philippines and Kingdom of Thailand - have all shown interest in providing national responses to the threat of marine pollution. On the regional level, these countries have formed two bodies to deal with oil pollution: 1) the ASEAN Council on Petroleum (ASCOPE) which was tasked with the standardization of environmental

and safety regulations for offshore drilling and the combat of transnational oil spills and 2) the ASEAN Group of Experts which have just developed the Regional Contingency Plan for the Control and Mitigation of Marine Pollution which basically forms an alerting system for member countries for spills occurring in the region. The plan contains provisions for the inventory of response capabilities of each member country with a view towards mutual assistance to countries in the region which do not have the capability to handle spill incidents on their own. To date, Indonesia, Malaysia and the Philippines have developed, under the spirit of the ASEAN Contingency Plan, an action plan for the Celebes Sea which area forms the traffic belt for international trading ships in the region.

All the planning and all the discussions however have not yet been really given the appropriate amount of attention from the member states. While there is unanimous agreement to jointly address vessel-source pollution in the region, there is still a long way to go in actually promoting and implementing uniform standards for the whole region. This could wreak havoc on the state of international shipping especially oil-transporting vessels in the area. Theoretically this encourages an imbalance of ship calls within the region as some nations shall have the decided advantage because of the preference for port states with relatively lower enforcement standards.

As far as ratification of international Conventions on the prevention and control of marine pollution are concerned, below is the ratification record as of 1990:

- Malaysia has ratified none of them;

- Indonesia has ratified MARPOL 73/78, Annexes I and II, CLC 1969, and CLC Prot. 1976;

- Brunei has ratified MARPOL 1973, Annexes I and II;

- Singapore has ratified CLC Protocols 1969 and 1976;

- Philippines has ratified OILPOL 1954 and LDC 1972.

On the matter of ratifications of the pertinent Conventions on pollution control and prevention, the following observation is worthy of attention:

> The countries of Southeast Asia are generally skeptical of international conventions, particularly for the management of ship-generated pollution. Apparently they feel that the costs imposed by implementation and enforcement of the regulations outweigh the benefits to be derived. With increasing economic development and concomitant marine environment damage, however, it may be asked: Is it time for individual or collective re-examination of the benefits and costs of each of the existing conventions?

Obviously, if the country is to take real interest in marine environment protection, serious efforts must be expended if only to weigh the costs to the country of ratifying a particular convention vis-a-vis the possible

benefits to the shipping industry, the seafarers, the national economic development, the marine ecosystems in the territorial waters. Numerous lessons from the experiences of other countries can be considered. The costs of restoration after the damage can be costly to the nation.

> Boston Harbor is today a filthy mix of sewage and toxic waste. When it rains, raw sewage and run-off routinely flow into it. More than a ton of toxic waste is dumped into the harbor each day. Over the next ten years, the state plans to spend more than USD 4.6 billion to build the nation's second largest waste water treatment plant - until that time, the harbors won't be any cleaner; many poisons will still be dumped into it legally.

The cost element arising from the obligations attached to the ratification of international Conventions should not be the overriding consideration. The benefits from compliance with the Conventions are numerous. They make for uninterrupted voyages of Philippine vessels simply because Port State requirements are satisfied; trained and capable Filipino seafarers shall continue to be on the rosters of international vessels because national education and training capabilities are up to standards, (after all, the seafaring industry is the fifth dollar-earning industry in the country); our local beaches and seaside resorts can command a better share of the tourist market for the cleanliness, clarity of shorelines and the abundance of marine inhabitants. The list could go on with benefits that are astounding. In the long run, the costs of obligations to Conventions shall be overtaken by the benefits returned.

4. There is also a realization that as far as oil spill response, the capabilities of the government are limited. In areas where shipping and handling of oil is concentrated, it is recommended that oil spill co-operatives be encouraged. Note that 98% of our national oil requirements are imported. In 1988 alone the country imported 70.8 million barrels of oil.

Under existing laws, the spiller of the oil is responsible for the clean-up. The organization which is actually handling the oil and, consequently, is the potential spiller, be it a refinery, a terminal or a tanker owner is not necessarily directly equipped to deal with spills. In some areas, even if he were able to do so, there would be duplication and waste of effort where many terminals and oil-using installations are situated close together. Consequently, in many areas, oil-spill co-operatives have grown up.

In general terms, these co-operatives follow a very similar pattern. Companies in the area who receive, or send out, oil by tanker or barge or, in some cases, who store it on the waterfront, agree to pay an annual levy, usually based on their oil movements, to a central fund. This money is used to finance the purchase of oil-spill equipment and to pay the cost of labor which is employed all the year round and is always ready to deal with an oil spill. All this is usually organized in one of two ways, either a clean-up company is formed whose directors are members of the co-operating firms and who employs a manger and industrial staff, purchases equipment and sets up depots in the usual way, or, alternatively, a contractor is

paid for the service. Any new specialized equipment required is purchased by the co-operative group and allocated for the use of the contractor. In the event of a spill from one of the member companies, the clean-up team can be quickly on the scene and is helped, if necessary, by the staff of the member who has actually spilled the oil. The equipment and indeed the services of the men are usually for hire to non-members in the area. There are, of course many variations to this basic idea.

5. Our seafaring industry has made national boundaries so very permeable that policies formerly considered matters of "national concern" have to be rethought now in terms of the requirements of other nations as to their efficiency, qualification, experience and general shipboard behavior. As of year-end 1990, over a 110,000 Filipino officers and crew were serving on board international vessels. Primarily, the inherent industry and facility in communication of our seafarers have put a premium on their hiring.

The growing global and inter-governmental concern on environmental cleanliness have put new dimensions on seamen qualification. International maritime Conventions by virtue of their "creeping" jurisdiction have developed world-wide standards for all nations including those who are not parties to such Conventions. We cannot afford to lose by default to other manpower supplying nations simply because of our failure to keep our seafarers' proficiency at par with the training and qualification requirements of safety and pollution prevention conventions. In economic terms, in

1990 alone our seafarers accounted for USD 288 million in remittances through our banking system.

The regime of international regulations are rapidly outdistancing our local regulations through the expanding scale of regulated activities concerning the environment. There is therefore the urgent need to strengthen and extend the application of international Conventions into our national laws. On the behavioral level, new norms and activities to accelerate environment friendly attitude on ships must be explored. The organization and establishment of PHILMEPA becomes highly relevant in this regard because no other industry can be ever deeply involved in marine environment considerations than the maritime industries.

CONCLUSION:

Although it has been suggested that any efficient system of marine pollution control must ultimately depend upon some measures of international action and co-operation, this is not to deny the paramount importance of adequate national water pollution control machinery. Considerable improvement in the state of marine pollution could be achieved by the reform of legislation and administration. Four points will be stressed again here.

First, the problem of estuarine and coastal water pollution is inextricably linked with the problem of inland water control, and this link should be reflected or at least recognized in the national machinery.

Second, although it may be true that coastal waters have a greater capacity than inland water for diluting and dispersing wastes, this capacity is still limited. Pollution control measures should therefore be applied in practice as rigorously to estuarine and coastal waters as to inland waters although the actual standards required may well be different.

Third, although the immediate regulation of various sources of marine pollution, such as shipping, seabed exploration and mining, coastal installations, etc., may have to remain scattered between various ministries, some form of over-all co-ordination of the various marine control measures should be established to ensure a uniform policy.

Finally, pollution control and prevention measures are most effective the higher they are applied in the chain of causation. Such measures should therefore be aimed at promoting the personnel competency and the operational processes of the potential cause(s) of pollution - the owners, the ships, the seafarers and their recruiters. Economic and administrative methods must therefore be an integral part of both public and private planning processes.

The rapidly increasing awareness of environmental problems has inspired a kind of global "oneness" which is flavoring (and continues to do so) international conferences. Whenever international summits on energy, trade and economy, even social ones are convened, heads of states have made environmental concerns a leading item.

There is top level recognition that development, debt reduction and the environment are closely linked.

Government must lead the way in establishing the environment as a priority. The time is right for environmental action. Membership in conservation groups around the world has swelled. More and more governments appear to ready to work together. The private sector is realizing finally that continued ignorance of existing laws (national and international) will continue to heap disaster upon disaster and hence, costs.

For the country, it is not technology that needs to be brought up to speed. That can come later. It is our will that must be encouraged. Unfortunately, it may take more disasters to loosen the purse strings enough to procure the appropriate technology, or motivate the responsible leaders, or pass the necessary laws.

The solution is education, no matter how abused the word is. The key is getting people to understand the connection between their daily lives and the environment tragedies they read about in the papers or watch on television. The example of the Exxon Valdez draws vivid pictures of oil-soaked birds, murky waters, spoiled beaches and passionate protests. Many of us though, miss the big picture. While this commiseration and condemnation is understandable, this is just one tanker which has run aground. There is a problem much bigger than this. Very often we forget just how intertwined our own lives have become with the major forms of pollution around us. We are so quick to blame Exxon and the petroleum industry, but we

forget that our daily dependence on cars and plastics only serve to fuel the industry. It is the high level of demand which bring about more ships and bigger payloads. We should shoulder some of the responsibility. The only way changes are going to be made is when people understand that if they want shorelines to be clean, if they want less garbage on their beaches, they will have to make alterations on their activities at home, at work and at play. The respected environmentalist and futurist, Buckminster Fuller puts it very aptly: " Think globally, act locally".

What we need nowadays are armies of people who are motivated by the goal of environment enhancement. The goal is too big a job for individuals alone. Any such movement needs the weight of government behind it. It is only in this system of co-operation and collaboration that one can expect a reconciliation of public and private priorities and a national pooling of resources.

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